Part 1 General Information……..……1

Part 2 Indoor Units……..6

Part 3 Outdoor Units…….217

Part 4 Installation…….……..……..……..268

Part 5 Control……..……..…291

Manufacture reserves the right to discontinue, or change at any time, specifications or designs without notices and without incurring obligations.

Part 1
General Information

1. Product Lineup.....2

2. Nomenclature.....错误！未定义书签。

3. Features.....错误！未定义书签。

1. Product Lineup

1.1 Indoor Units:

MDV Indoor Unit	Refrigerant	2.2kW	2.8Kw	3.6kW	4.5kW	5.6kW	7.1kW	8.0kW	9.0kW	11.2kW	14.0kW
Four-way cassette compact	R410A	√	√	√	√	√					
Four-way cassette	R410A					√	√	√	√	√	
Low static pressure duct	R410A	√	√	√							
Duct	R410A				√	√	√	√	√	√	√
Ceiling & floor unit	R410A			√	√	√	√	√	√	√	√
Wall mounted unit	R410A	√	√	√	√	√					
Wall mounted unit	R410A	√	√	√	√	√					
Exposed Floor-standing	R410A	√	√	√	√	√	√	√			
Concealed Floor-standing	R410A	√	√	√	√	√	√	√			
New Four-way Cassette	R410A		√	√	√	√	√	√	√	√	

1.2 Outdoor Units

MDV-V105W/SN1	MDV-V140W/SN1/ MDV-V160W/SN1

Model name	Dimension (mm)	Net/Gross weight (kg)	Power supply
MDV-V105W/SN1	Width: 990 Height: 966 Depth:396	104/111	380~415V-3ph-50Hz
MDV-V140W/SN1	Width: 940 Height: 1245 Depth:400	124/130	380~415V-3ph-50Hz
MDV-V160W/SN1	Width: 940 Height: 1245 Depth:400	124/130	380~415V-3ph-50Hz

2. Nomenclature

2.1 Indoor unit:

MDV-D28Q4/CN1

Refrigerant type
N1 R410A

Product Design Sequence
A 1st design B 2nd design C 3rd design

Indoor Unit
Q4 Four-way cassette
Q4-A Compact four-way cassette
Q4-C New four-way cassette
T3 Low static pressure duct
T2 Duct
T1 High static pressure duct
DL Ceiling&Floor
G Wall-mounted
Z Floor-standing

Cooling Capacity (×100W)

D Digital Scroll A/C System

Multi-Digital-Variable

2.2 Outdoor unit:

MDV-V 105 W/ S N1

Refrigerant
N1: R410A

Power Supply
S:380V, 50Hz ,3Ph

Outdoor Unit

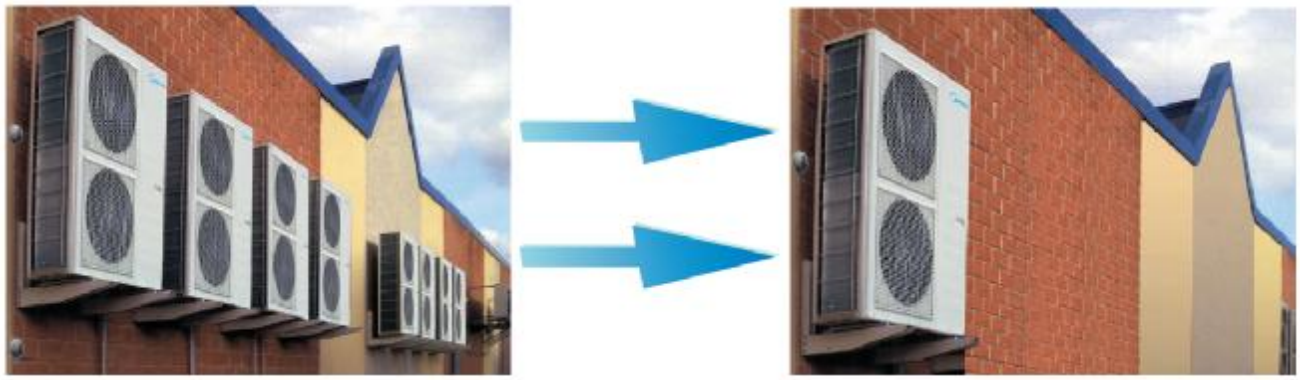
Capacity (X100W)

DC Inverter

Multi-Digital-Variable

3. Features

1. From 2.2kW to 16kW with different type indoor units, it is full compliance with residential and light commercial place.
2. Only two main refrigerant lines (liquid pipe and gas pipe) are required in one system.
3. In some large residential spaces or some light commercial space, such as villa, restaurant, usually it need more than one indoor unit, so outside the building are also full of outdoor unit. Now Midea can provide an effective solution-Midea DC inverter mini system. Since now the beauty of the building will be back.



4. Indoor unit is over 50 models in 8 type variations can be choose, including 4-way cassette, 4-way cassette(Compact), duct, ceiling and floor, wall-mounted, floor-standing, give you the most fashionable and comfortable living space.
5. The outdoor unit can be used as unitary type outdoor unit or multi type outdoor unit. So there can be only one indoor unit matched with outdoor unit.
6. Indoor unit is the same as the inverter smart series, please refer to the inverter smart part.

Part 2
Indoor Units

Four-way Cassette Compact Type…..……..…..7

Four-way Cassette Type…….……..……..25

New Four-way Cassette Type…….45

Low Pressure Duct Type…….....……..73

Medium Pressure Duct Type.……..…….……..87

Ceiling & Floor Type ……..….110

Wall mounted Type…….……132

New Wall-mounted Type……..……..148

Exposed & Concealed Floor-standing Type……170

Four-way Cassette Compact Type

1. Features....8
2. Specifications....9
3. Dimensions....11
4. Service Space....12
5. Piping Diagrams....12
6. Wiring Diagrams....13
7. Air Velocity and Temperature Distributions....15
8. Capacity Tables....16
9. Electric Characteristics....20
10. Sound Levels....20
11. Exploded View....21
12. Accessories....24

1. Features

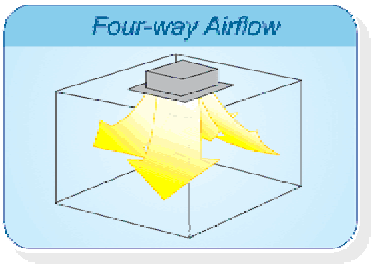
(1) Low operation noise

---Streamline plate ensures quietness

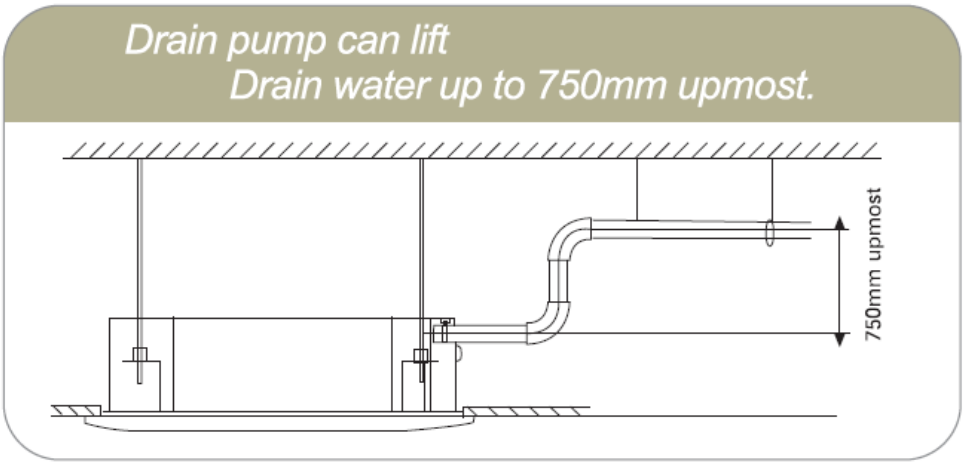
---Creates natural and comfortable environment

(2) Efficient cooling

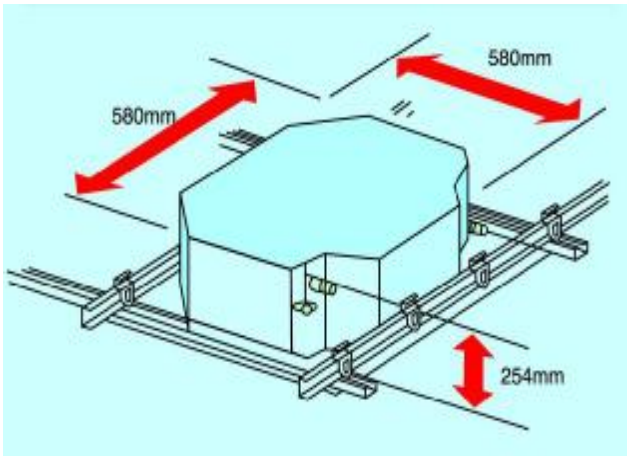
---Equal, fast and wide—range cooling

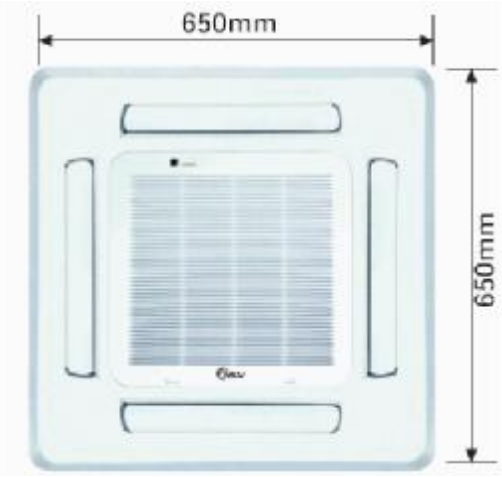


(3) Built-in water pump which pumping head is 750mm up most



(4) Compact design makes it easy for installation and maintenance



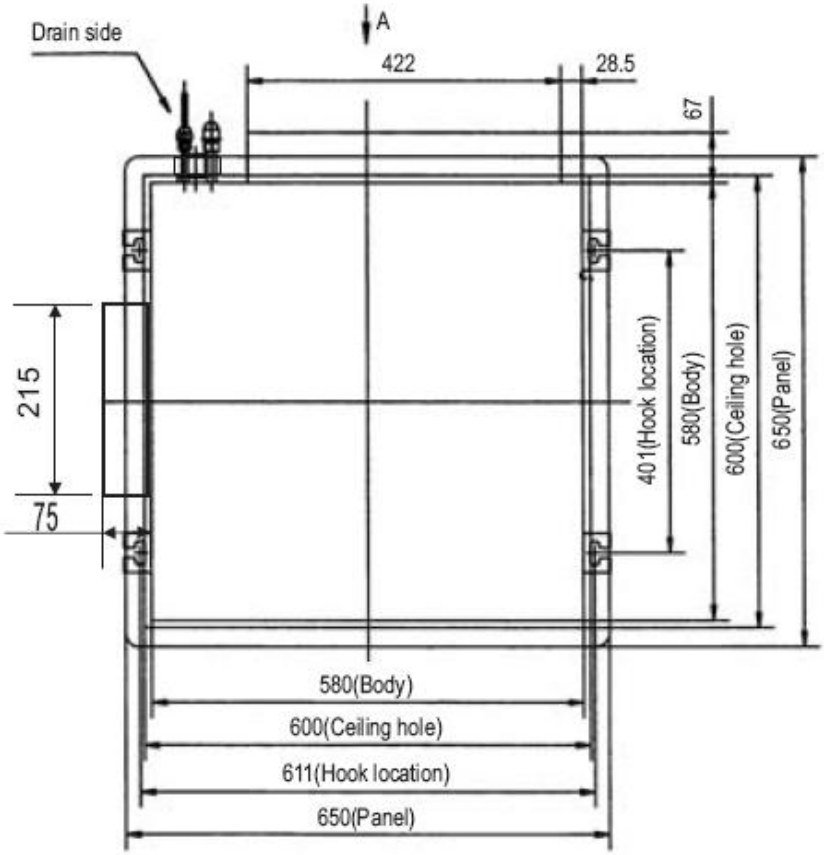


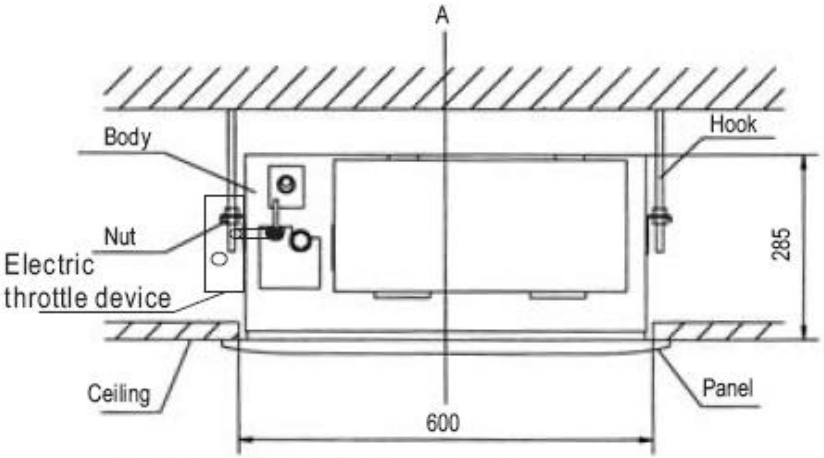
2. Specifications

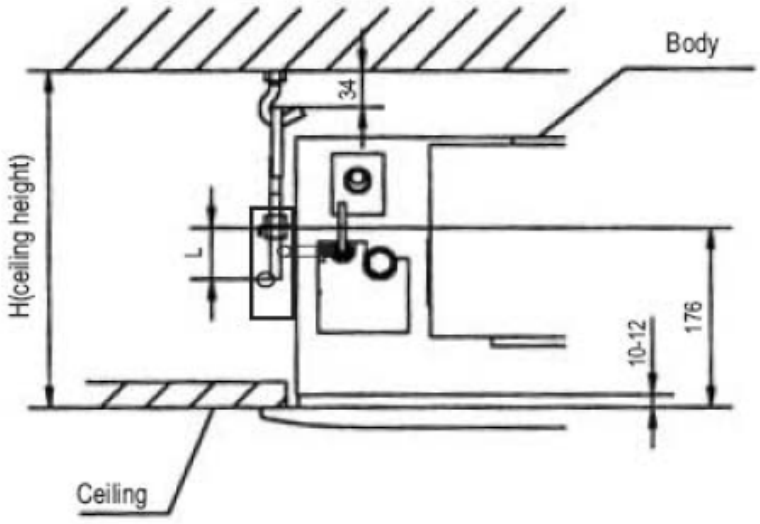
Sale Model				MDV-D22Q4/CN1	MDV-D28Q4/CN1	MDV-D36Q4/CN1
Power supply			V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50
Cooling	Capacity		kW	2.2	2.8	3.6
	Input		W	58	58	58
	Rated current		A	0.26	0.26	0.26
Heating	Capacity		kW	2.6	3.2	4.0
	Input		W	58	58	58
	Rated current		A	0.26	0.26	0.26
Indoor fan motor	Model			YDK45-4F-3	YDK45-4F-3	YDK45-4F-3
	Type			AC MOTOR	AC MOTOR	AC MOTOR
	Brand			Welling	Welling	Welling
	Input		W	65/59/55	65/59/55	65/59/55
	Capacitor		uF	1.2uF/450V	1.2uF/450V	1.5UF/450V
	Speed(hi/mi/lo)		r/min	930/770	930/770	930/770
Indoor coil	a.Number of rows			1	1	1
	b.Tube pitch(a)x row pitch(b)		mm	21x13.37	21x13.37	21x13.37
	c.Fin spacing		mm	1.4	1.4	1.4
	d.Fin type (code)			Hydrophilic aluminum		
	e.Tube outside dia.and type		mm	Φ7	Φ7	Φ7
				Inner groove tube		
	f.Coil length x height x width		mm	1188x210x13.37	1188x210x13.37	1188x210x13.37
	g.Number of circuits			3	3	3
Indoor air flow (Hi/Mi/Lo)			m^3/h	570/400	570/400	570/400
Sound level (sound pressure)			dB(A)	38/35	38/35	38/35
Indoor unit	Dimension (W x H x D)		mm	580 x 254 x580	580x254 x580	580x254 x580
	Packing (W x H x D)		mm	750x340 x745	750x340 x745	750x340 x745
	Net/Gross weight		kg	18/25	18/25	18/25
Panel	Dimension (W x H x D)		mm	650 x30 x650	650 x30 x650	650 x30 x650
	Packing (W x H x D)		mm	715 x115 x715	715 x115 x715	715 x115 x715
	Net/Gross weight		kg	3/5	3/5	3/5
Refrigerant piping	Type			R410A	R410A	R410A
Design pressure			MPa	4.2/2.5	4.2/2.5	4.2/2.5
Refrigerant piping	Liquid side/ Gas side		mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Connection wiring	Power wiring		mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring		mm^2	3×1.0		
Drainage water pipe dia.			mm	Φ25	Φ25	Φ25
Wireless remote controller				R51/E(standard)		
Operation temp			℃	17～30		
Application area			m^2	11～14.6	14～18.6	18～24

Sale Model				MDV-D45Q4/BN1	MDV-D56Q4/BN1
Power supply			V-ph-Hz	220~240-1-50	220~240-1-50
Cooling	Capacity		kW	4.5	5.6
	Input		W	63	63
	Rated current		A	0.28	0.28
Heating	Capacity		kW	5.0	6.3
	Input		W	63	63
	Rated current		A	0.28	0.28
Indoor fan motor	Model			YDK45-4F	YDK45-4F
	Type			AC MOTOR	AC MOTOR
	Input		W	64/57/48	64/57/48
	Capacitor		uF	2.5UF/450V	2.5UF/450V
	Speed(hi/mi/lo)		r/min	930/660	930/660
Indoor coil	a.Number of rows			2	2
	b.Tube pitch(a)x row pitch(b)		mm	21x13.37	21x13.37
	c.Fin spacing		mm	1.4	1.4
	d.Fin type (code)			Hydrophilic aluminum	
	e.Tube outside dia.and type		mm	Φ7	Φ7
				Inner groove tube	
	f.Coil length x height x width		mm	1247x26.74 x210	1247x210x26.7
	g.Number of circuits			5	5
Indoor air flow (Hi/Mi/Lo)			m^3/h	570/400	570/400
Sound level (sound pressure)			dB(A)	39/36	39/36
Indoor unit		Dimension (W x H x D)	mm	580x 254 x 580	580x254 x580
		Packing (W x H x D)	mm	750x 340 x 745	750x340 x745
		Net/Gross weight	kg	24/30	24/30
Panel		Dimension (W x H x D)	mm	650 x30 x650	650 x30 x650
		Packing (W x H x D)	mm	715 x115 x715	715 x115 x715
		Net/Gross weight	kg	3/5	3/5
Refrigerant		Type		R410A	R410A
Design pressure			MPa	4.4/2.5	4.4/2.5
Refrigerant piping		Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Connection wiring		Power wiring	mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)	
		Signal wiring	mm^2	3×1.0	
Drainage water pipe dia.			mm	Φ25	Φ25
Wireless remote controller				R51/E(standard)	
Operation temp			℃	17～30	
Application area			m^2	18	28～37.3

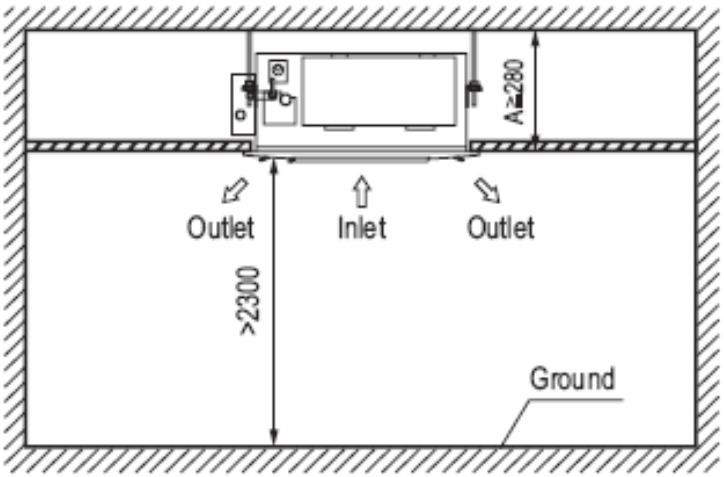
3. Dimensions

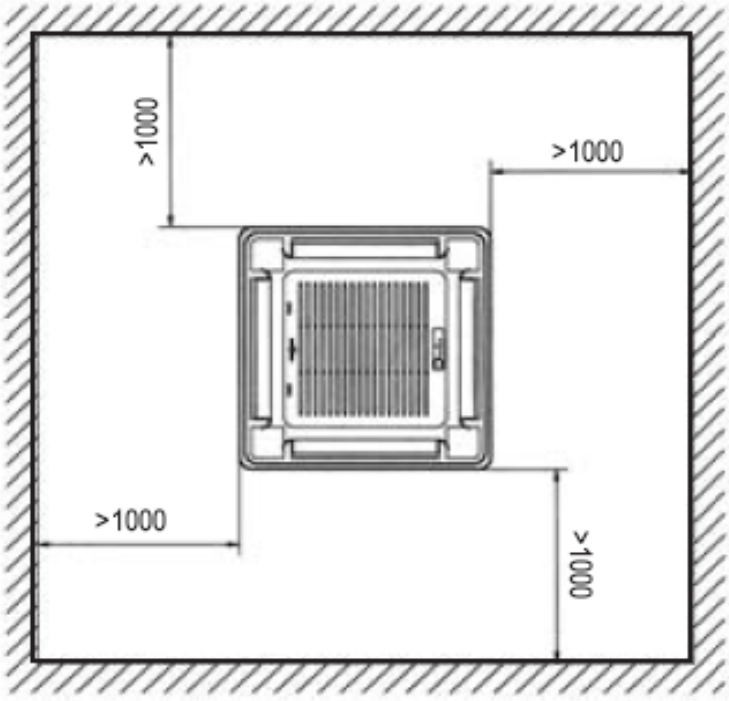






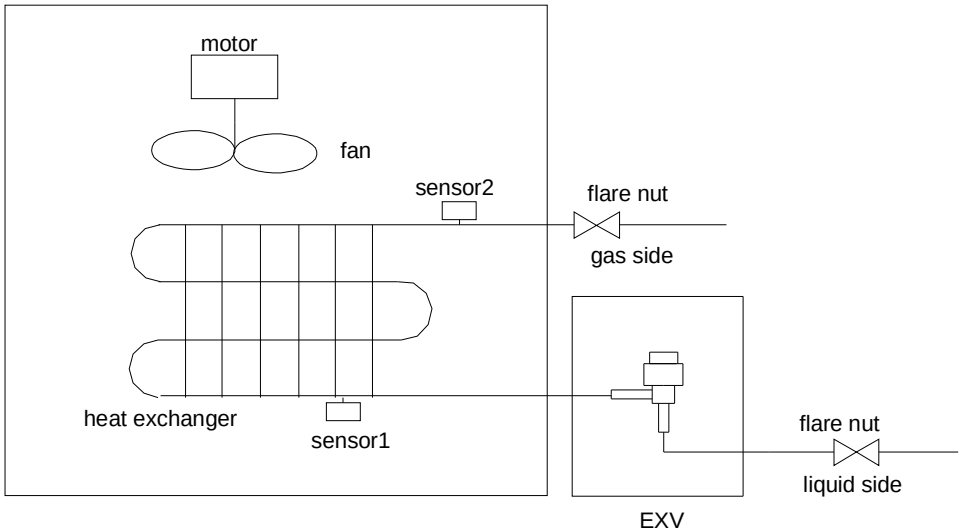
4. Service Space





5. Piping Diagrams

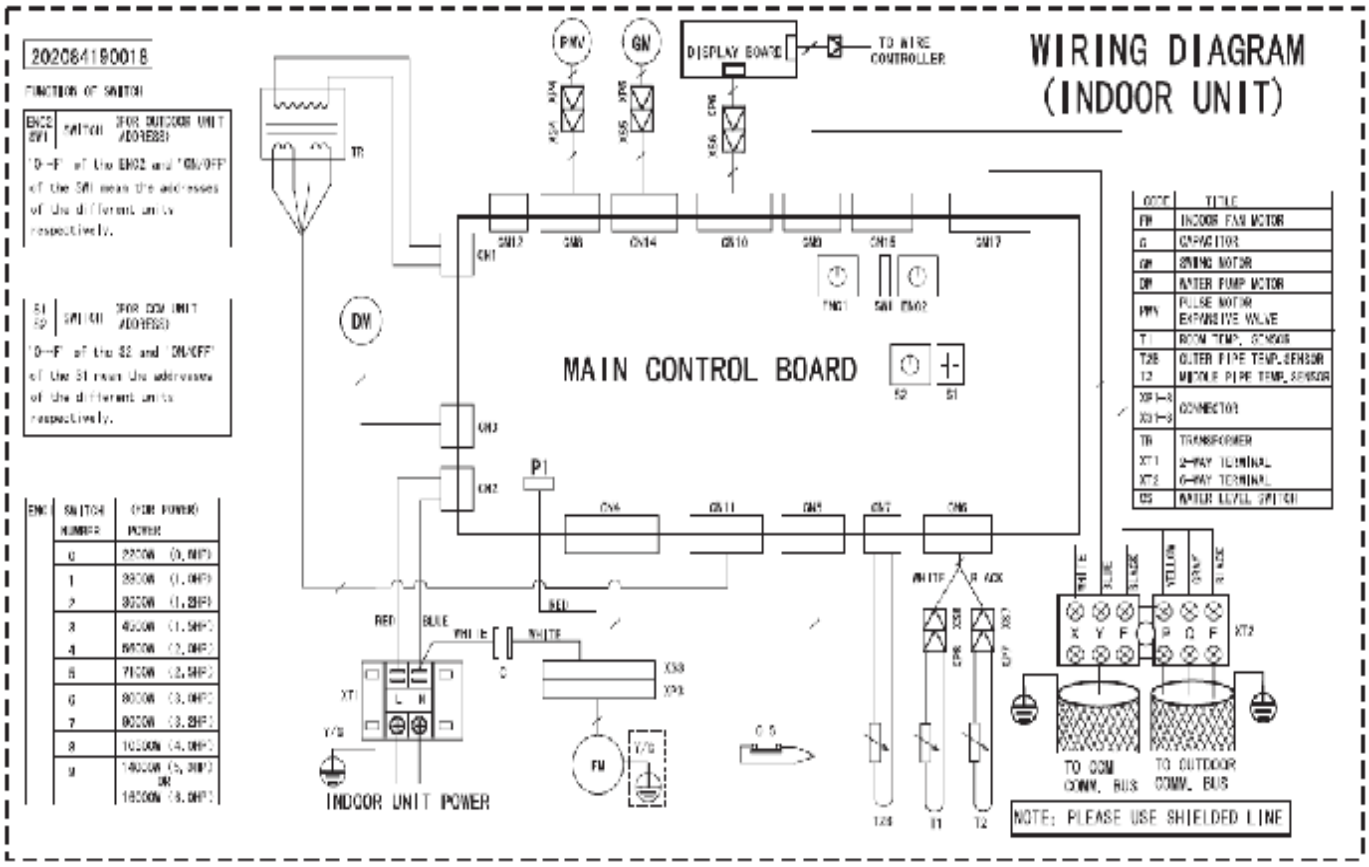
MDV-D22Q4/CN1、MDV-D28Q4/CN1、MDV-D36Q4/CN1 、MDV-D45Q4/BN1、MDV-D56Q4/BN1



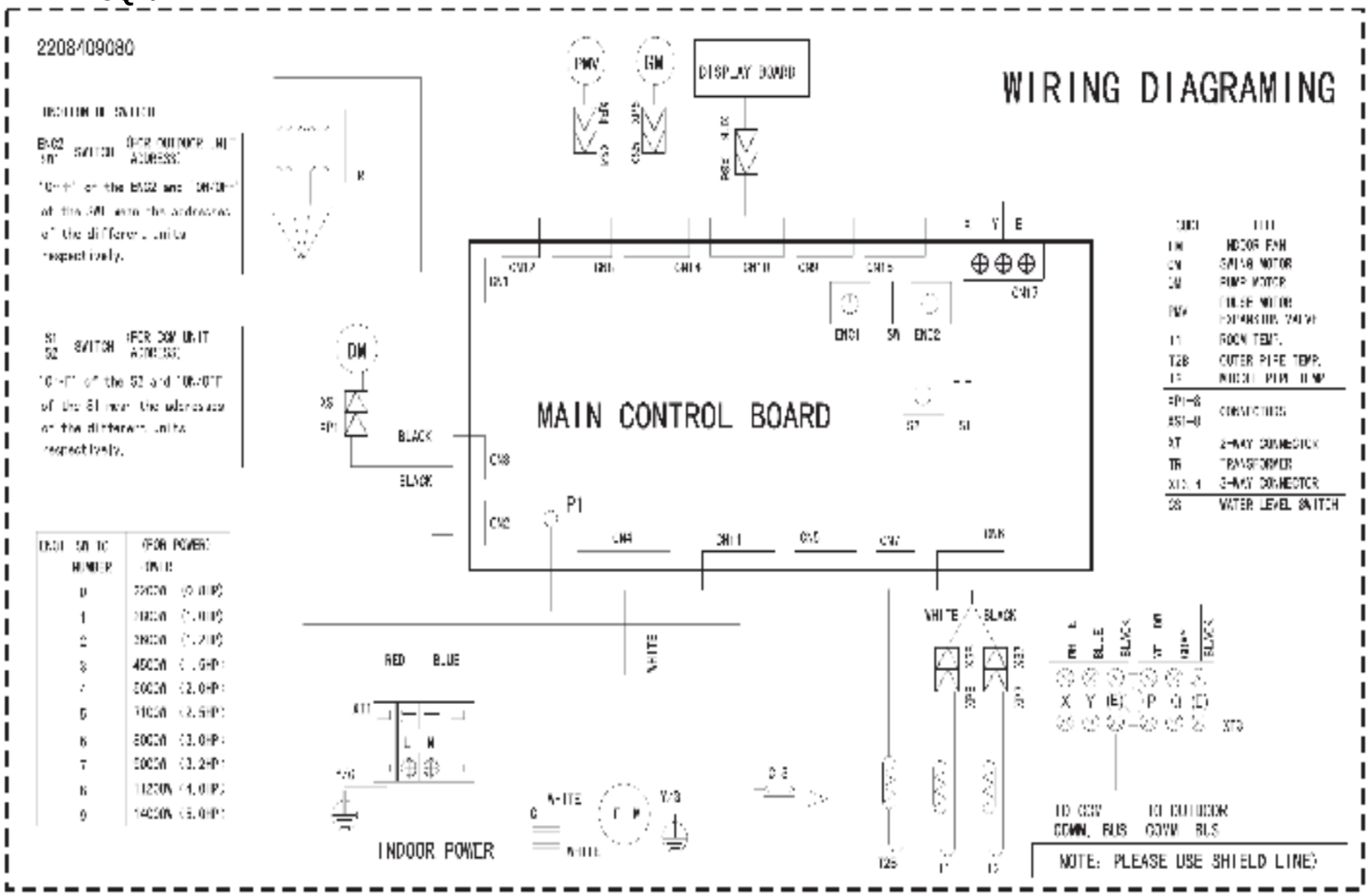
Sensor1: T2
Sensor2: T2B

6. Wiring Diagrams

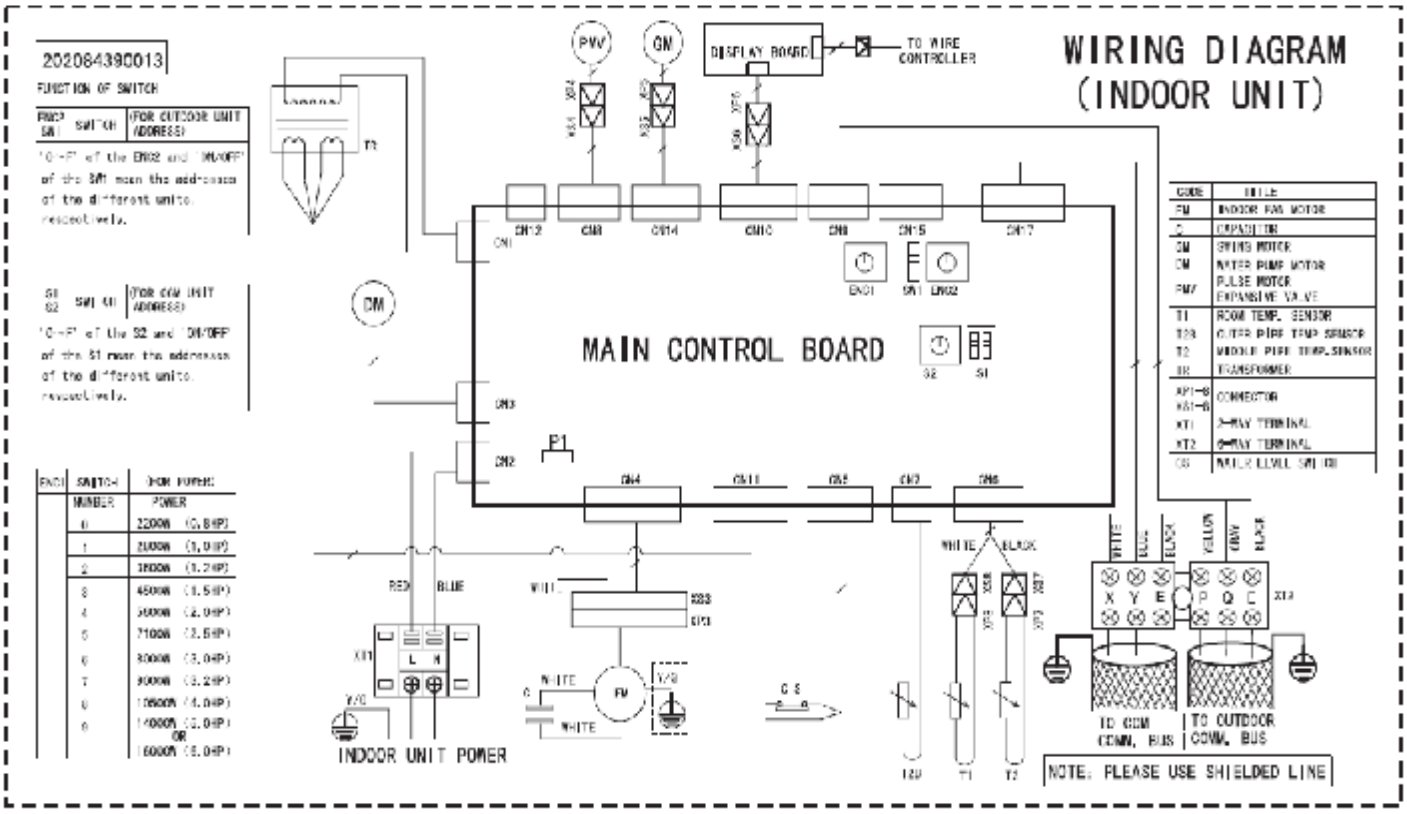
MDV-D22Q4/CN1、MDV-D28Q4/CN1、MDV-D36Q4/CN1



MDV-D45Q4/BN1

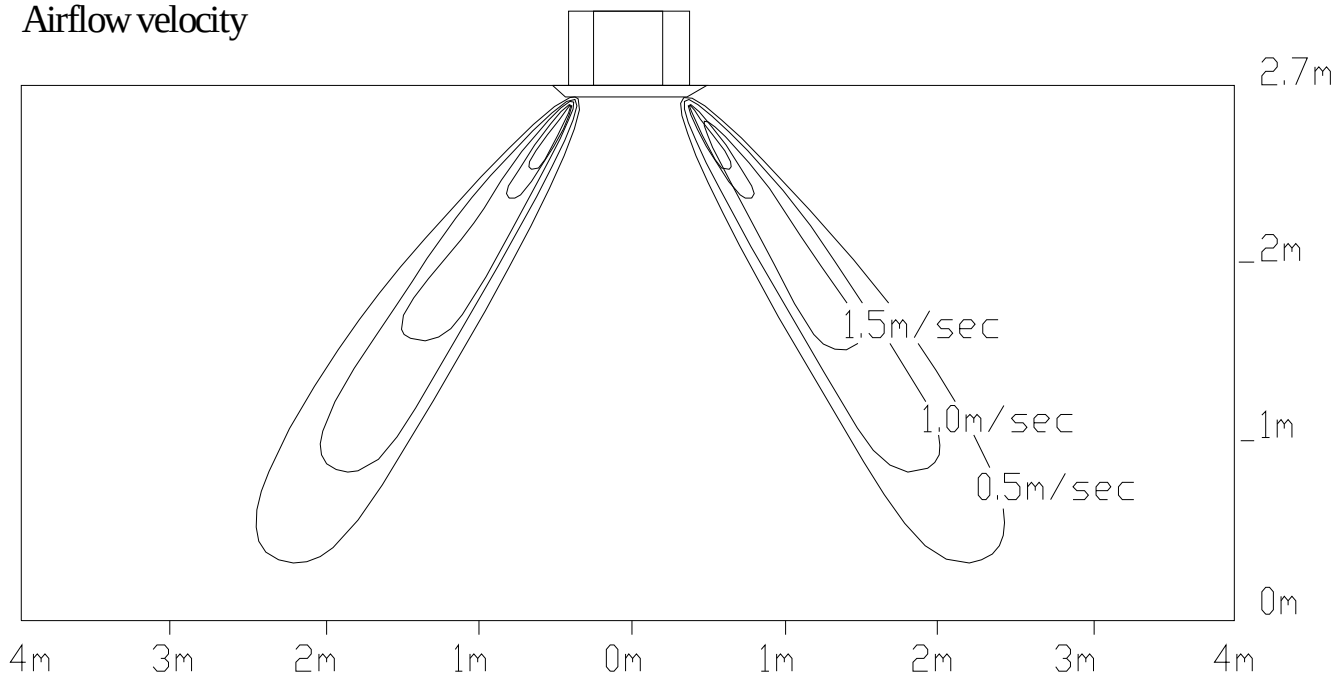


MDV-D56Q4/BN1

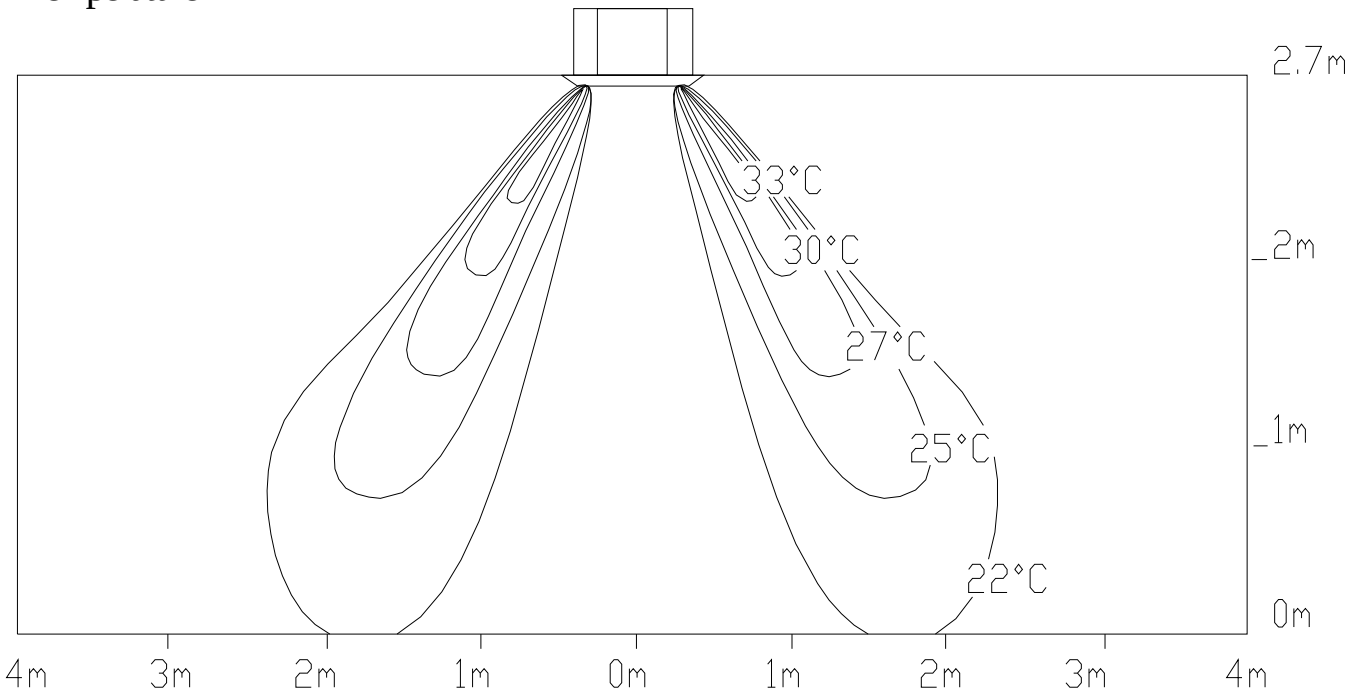


7. Air Velocity and Temperature Distributions

Airflow velocity



Temperature



8. Capacity Tables

8.1 Cooling

TH: total capacity **SH**: sensible capacity

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2.2	10	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.9	1.7
	12	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	14	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	16	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	18	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	20	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	21	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	23	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.7	1.5
	25	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	27	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	29	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	31	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	33	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.4	1.5
	35	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.4	1.5
	37	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.3	1.5
	39	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.2	1.6	2.3	1.5	2.3	1.5
2.8	10	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.7	2.1
	12	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	14	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	16	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.0
	18	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.5	2.0
	20	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	21	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	23	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.1	3.4	1.9
	25	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	27	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	29	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	31	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	33	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.1	2.0
	35	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	3.1	2.0
	37	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	2.9	1.9
	39	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.8	2.0	2.9	1.9	2.9	1.9
3.6	10	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.8	2.8
	12	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	14	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	16	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	18	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	20	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	21	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	23	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	25	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	27	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	29	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.5
	31	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.4
	33	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.0	2.4
	35	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	4.0	2.4
	37	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	3.9	2.3
	39	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.7	3.9	2.4
4.5	10	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	12	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	14	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.8	3.3
	16	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	18	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	20	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.5	3.2
	21	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.4	3.1
	23	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.4	3.1
	25	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.3	3.0
	27	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.3	3.0
	29	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.1	2.9
	31	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	5.1	3.0
	33	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.9	2.9
	35	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.8	2.8
	37	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9
	39	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9
5.6	10	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	12	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	14	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.2	4.1
	16	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	18	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	20	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	21	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.0	4.1
	23	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	25	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.5	4.1	6.8	3.9
	27	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.4	4.0	6.5	3.8
	29	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.3	4.0	6.4	3.7
	31	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.2	3.9	6.3	3.7
	33	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.0	3.8	6.3	3.7
	35	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.7	6.2	3.6
	37	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.9	6.1	3.5
	39	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	5.7	3.8	5.8	3.8	6.0	3.5

8.2 Heating

TC: total capacity

Indoor Unit size (kW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
2.20	-15.00	-14.70	1.64	1.64	1.64	1.64	1.64	1.64
	-13.00	-12.60	1.74	1.74	1.74	1.74	1.74	1.74
	-11.00	-10.50	1.82	1.82	1.82	1.82	1.82	1.82
	-10.00	-9.50	1.90	1.90	1.90	1.90	1.90	1.90
	-9.10	-8.50	1.95	1.95	1.95	1.95	1.95	1.95
	-7.60	-7.00	1.98	1.98	1.98	1.98	1.98	1.98
	-5.60	-5.00	2.05	2.05	2.05	2.05	2.05	2.05
	-3.70	-3.00	2.16	2.16	2.16	2.16	2.16	2.16
	-0.70	0.00	2.31	2.31	2.31	2.31	2.31	2.18
	2.20	3.00	2.44	2.44	2.44	2.44	2.39	2.18
	4.10	5.00	2.52	2.52	2.52	2.52	2.39	2.18
	6.00	7.00	2.60	2.60	2.60	2.52	2.39	2.18
	7.90	9.00	2.68	2.68	2.60	2.52	2.39	2.18
	9.80	11.00	2.76	2.76	2.60	2.52	2.39	2.18
	11.80	13.00	2.86	2.81	2.60	2.52	2.39	2.18
	13.70	15.00	2.94	2.81	2.60	2.52	2.39	2.18
2.80	-15.00	-14.70	2.02	2.02	2.02	2.02	2.02	2.02
	-13.00	-12.60	2.14	2.14	2.14	2.14	2.14	2.14
	-11.00	-10.50	2.24	2.24	2.24	2.24	2.24	2.24
	-10.00	-9.50	2.34	2.34	2.34	2.34	2.34	2.34
	-9.10	-8.50	2.40	2.40	2.40	2.40	2.40	2.40
	-7.60	-7.00	2.43	2.43	2.43	2.43	2.43	2.43
	-5.60	-5.00	2.53	2.53	2.53	2.53	2.53	2.53
	-3.70	-3.00	2.66	2.66	2.66	2.66	2.66	2.66
	-0.70	0.00	2.85	2.85	2.85	2.85	2.85	2.69
	2.20	3.00	3.01	3.01	3.01	3.01	2.94	2.69
	4.10	5.00	3.10	3.10	3.10	3.10	2.94	2.69
	6.00	7.00	3.20	3.20	3.20	3.10	2.94	2.69
	7.90	9.00	3.30	3.30	3.20	3.10	2.94	2.69
	9.80	11.00	3.39	3.39	3.20	3.10	2.94	2.69
	11.80	13.00	3.52	3.46	3.20	3.10	2.94	2.69
	13.70	15.00	3.62	3.46	3.20	3.10	2.94	2.69
3.60	-15.00	-14.70	2.52	2.52	2.52	2.52	2.52	2.52
	-13.00	-12.60	2.68	2.68	2.68	2.68	2.68	2.68
	-11.00	-10.50	2.80	2.80	2.80	2.80	2.80	2.80
	-10.00	-9.50	2.92	2.92	2.92	2.92	2.92	2.92
	-9.10	-8.50	3.00	3.00	3.00	3.00	3.00	3.00
	-7.60	-7.00	3.04	3.04	3.04	3.04	3.04	3.04
	-5.60	-5.00	3.16	3.16	3.16	3.16	3.16	3.16
	-3.70	-3.00	3.32	3.32	3.32	3.32	3.32	3.32

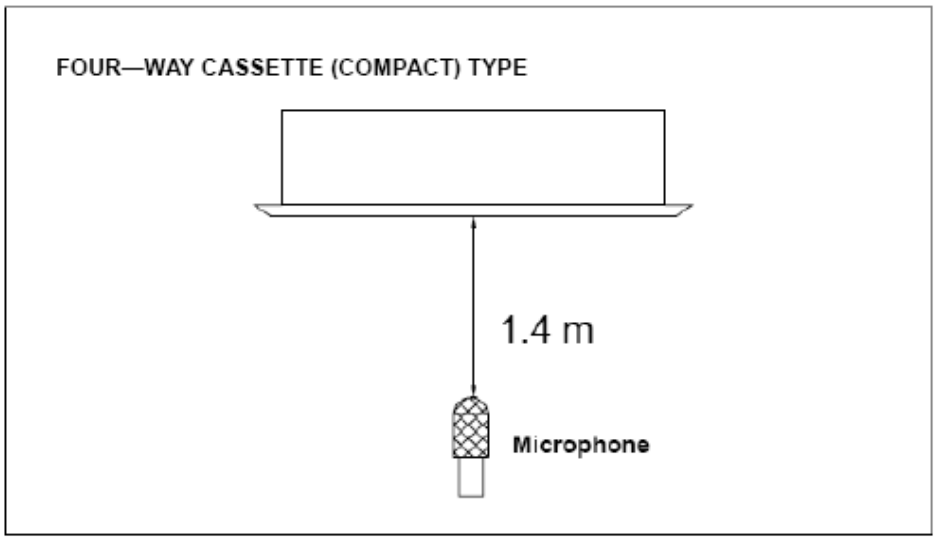
Indoor Unit size (kW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
	-0.70	0.00	3.56	3.56	3.56	3.56	3.56	3.36
	2.20	3.00	3.76	3.76	3.76	3.76	3.68	3.36
	4.10	5.00	3.88	3.88	3.88	3.88	3.68	3.36
	6.00	7.00	4.00	4.00	4.00	3.88	3.68	3.36
	7.90	9.00	4.12	4.12	4.00	3.88	3.68	3.36
	9.80	11.00	4.24	4.24	4.00	3.88	3.68	3.36
	11.80	13.00	4.40	4.32	4.00	3.88	3.68	3.36
	13.70	15.00	4.52	4.32	4.00	3.88	3.68	3.36
4.50	-15.00	-14.70	3.15	3.15	3.15	3.15	3.15	3.15
	-13.00	-12.60	3.35	3.35	3.35	3.35	3.35	3.35
	-11.00	-10.50	3.50	3.50	3.50	3.50	3.50	3.50
	-10.00	-9.50	3.65	3.65	3.65	3.65	3.65	3.65
	-9.10	-8.50	3.75	3.75	3.75	3.75	3.75	3.75
	-7.60	-7.00	3.80	3.80	3.80	3.80	3.80	3.80
	-5.60	-5.00	3.95	3.95	3.95	3.95	3.95	3.95
	-3.70	-3.00	4.15	4.15	4.15	4.15	4.15	4.15
	-0.70	0.00	4.45	4.45	4.45	4.45	4.45	4.20
	2.20	3.00	4.70	4.70	4.70	4.70	4.60	4.20
	4.10	5.00	4.85	4.85	4.85	4.85	4.60	4.20
	6.00	7.00	5.00	5.00	5.00	4.85	4.60	4.20
	7.90	9.00	5.15	5.15	5.00	4.85	4.60	4.20
	9.80	11.00	5.30	5.30	5.00	4.85	4.60	4.20
	11.80	13.00	5.50	5.40	5.00	4.85	4.60	4.20
	13.70	15.00	5.65	5.40	5.00	4.85	4.60	4.20
5.60	-15.00	-14.70	3.97	3.97	3.97	3.97	3.97	3.97
	-13.00	-12.60	4.22	4.22	4.22	4.22	4.22	4.22
	-11.00	-10.50	4.41	4.41	4.41	4.41	4.41	4.41
	-10.00	-9.50	4.60	4.60	4.60	4.60	4.60	4.60
	-9.10	-8.50	4.73	4.73	4.73	4.73	4.73	4.73
	-7.60	-7.00	4.79	4.79	4.79	4.79	4.79	4.79
	-5.60	-5.00	4.98	4.98	4.98	4.98	4.98	4.98
	-3.70	-3.00	5.23	5.23	5.23	5.23	5.23	5.23
	-0.70	0.00	5.61	5.61	5.61	5.61	5.61	5.29
	2.20	3.00	5.92	5.92	5.92	5.92	5.80	5.29
	4.10	5.00	6.11	6.11	6.11	6.11	5.80	5.29
	6.00	7.00	6.30	6.30	6.30	6.11	5.80	5.29
	7.90	9.00	6.49	6.49	6.30	6.11	5.80	5.29
	9.80	11.00	6.68	6.68	6.30	6.11	5.80	5.29
	11.80	13.00	6.93	6.80	6.30	6.11	5.80	5.29
	13.70	15.00	7.12	6.80	6.30	6.11	5.80	5.29

9. Electric Characteristics

Model	Indoor Unit				Power Supply	IFM	
	Hz	Voltage	Min.	Max.	MFA	kW	FLA
MDV-D22Q4/CN1	50	220-240	198	254	15	0.045	0.3
MDV-D28Q4/CN1	50	220-240	198	254	15	0.045	0.3
MDV-D36Q4/CN1	50	220-240	198	254	15	0.045	0.3
MDV-D45Q4/BN1	50	220-240	198	254	15	0.045	0.29
MDV-D56Q4/BN1	50	220-240	198	254	15	0.045	0.29

Remark:
MFA: Max. Fuse Amps. (A)
KW: Fan Motor Rated Output (KW)
FLA: Full Load Amps. (A)
IFM: Indoor Fan Motor

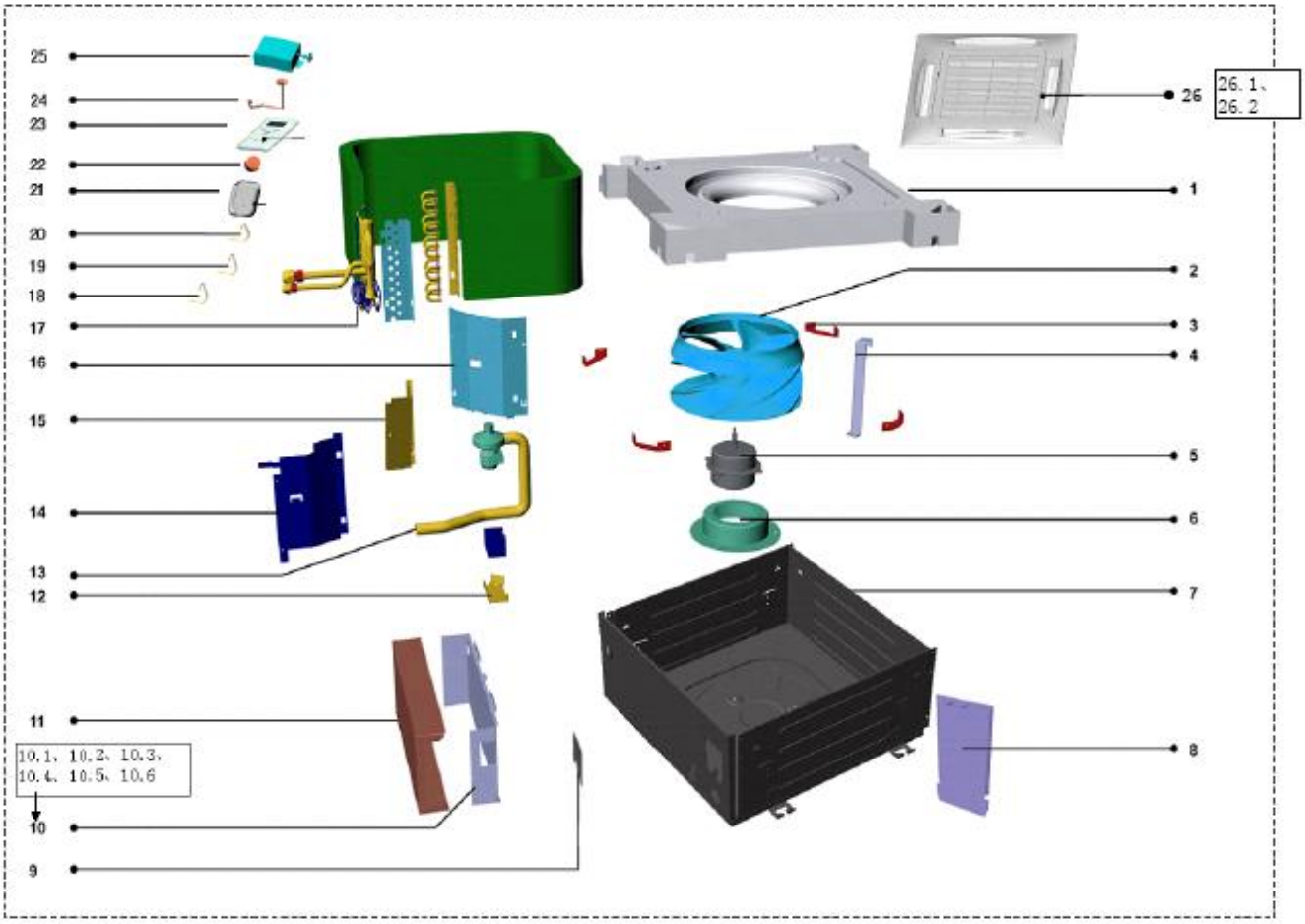
10. Sound Levels



Model	Noise level dB(A)	
	H	L
MDV-D22Q4/CN1	38	35
MDV-D28Q4/CN1	38	35
MDV-D36Q4/CN1	38	35
MDV-D45Q4/BN1	39	36
MDV-D56Q4/BN1	39	36

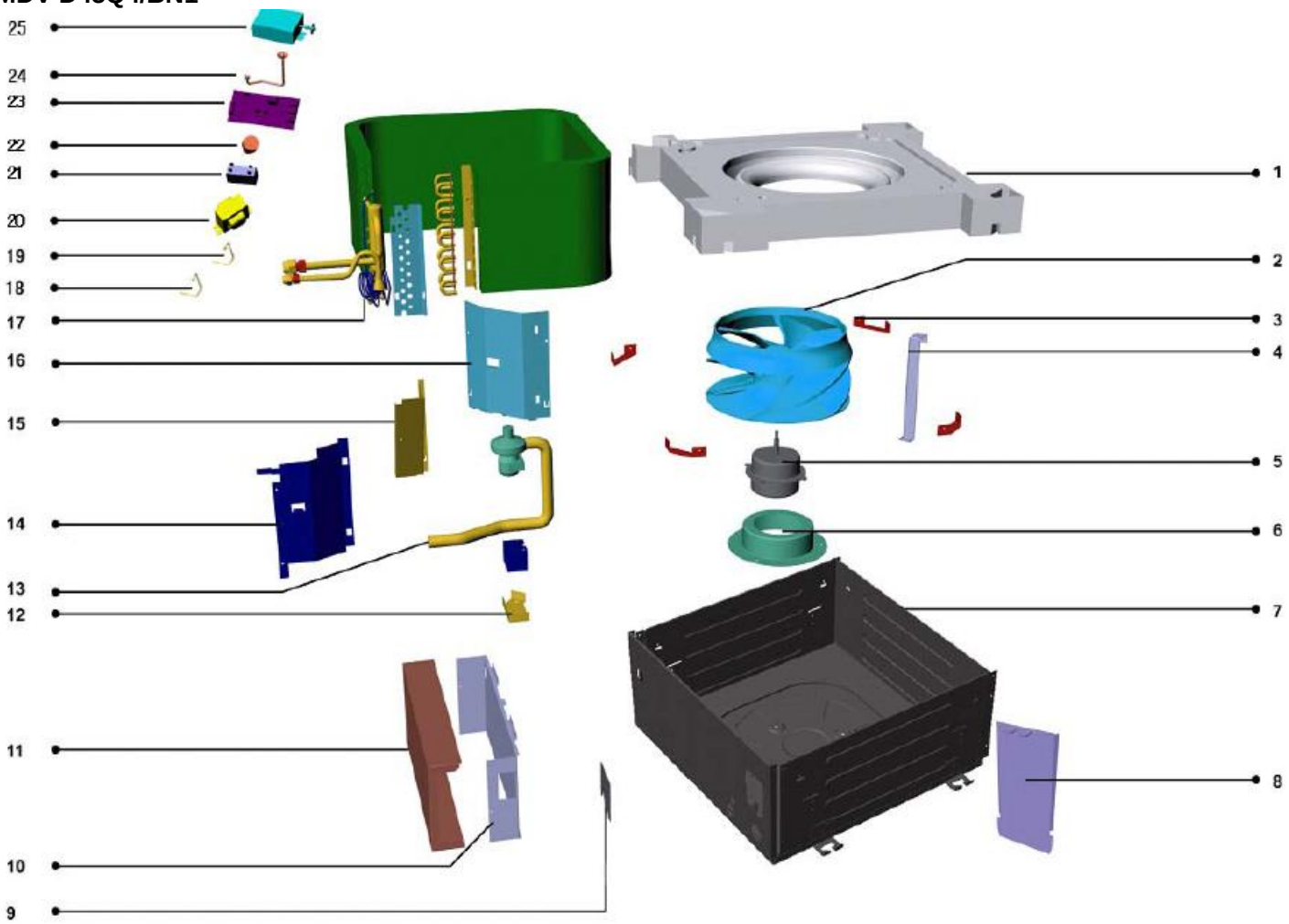
11. Exploded View

MDV-D22Q4/CN1、MDV-D28Q4/CN1、MDV-D36Q4/CN1



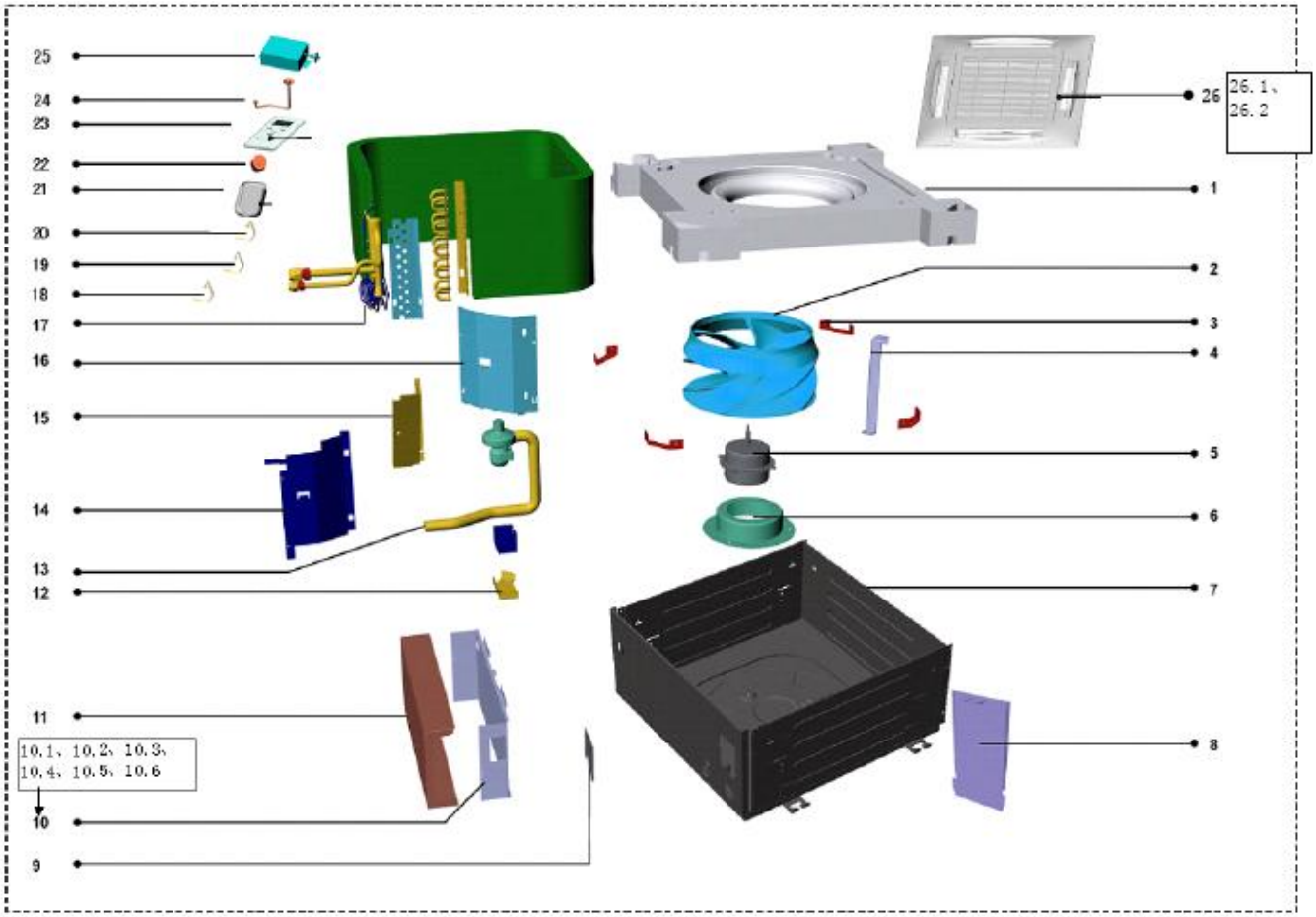
No.	Part Name	Quantity		No.	Part Name	Quantity
1	Drainage pan ass'y	1		12	Drain pump bracket	1
2	Centrifugal fan	1		13	Drain pump	1
3	Installation bracket	4		14	Right clapboard ass'y	1
4	Evaporator fixing hanger	1		15	Partition board	1
5	Motor	1		16	Evaporator fixing board ass'y	1
6	Motor base	1		17	Evaporator ass'y	1
7	Base ass'y	1		18	Temperature sensor	1
8	Board	1		19	Room temp sensor ass'y	1
9	Sealed board ass'y	1		20	Temperature sensor ass'y	1
10	E-part ass'y	1		21	Remote controller bracket ass'y	1
10.1	E-Parts box	1		22	Water level sensor ass'y	1
10.2	Main control board ass'y	1		23	Remote controller	1
10.3	Transformer	1		24	Connecting pipe ass'y	1
10.4	Wire joint, 2p	1		25	Electric throttle ass'y	1
10.5	Motor capacitor	1		26	Panel ass'y	1
10.6	Wire joint	1		26.1	Display board	1
11	E-Part box cover			26.2	Swing motor	1

MDV-D45Q4/BN1



No.	Part Name	Quantity		No.	Part Name	Quantity
1	Drainage pan ass'y	1		14	Right clapboard ass'y	1
2	Centrifugal fan	1		15	Partition board	1
3	Installation bracket	4		16	Evaporator fixing board ass'y	1
4	Evaporator fixing hanger	1		17	Evaporator ass'y	1
5	Motor	1		18	Temperature sensor	1
6	Motor base	1		19	Room temp sensor ass'y	1
7	Base ass'y	1		20	Transformer	1
8	Board	1		21	Motor capacitor	1
9	Sealed board ass'y	1		22	Water level sensor ass'y	1
10	E-part ass'y	1		23	Main control board ass'y	1
11	E-Part box cover	1		24	Connecting pipe ass'y	1
12	Drain pump bracket	1		25	Electric throttle assembly	1
13	Drain pump	1				

MDV-D56Q4/BN1



No.	Part Name	Quantity		No.	Part Name	Quantity
1	Drainage pan ass'y	1		12	Drain pump bracket	1
2	Centrifugal fan	1		13	Drain pump	1
3	Installation bracket	4		14	Right clapboard ass'y	1
4	Evaporator fixing hanger	1		15	Partition board	1
5	Motor	1		16	Evaporator fixing board ass'y	1
6	Motor base	1		17	Evaporator ass'y	1
7	Base ass'y	1		18	Temperature sensor	1
8	Board	1		19	Room temp sensor ass'y	1
9	Sealed board ass'y	1		20	Temperature sensor ass'y	1
10	E-part ass'y	1		21	Remote controller bracket ass'y	1
10.1	E-Parts box	1		22	Water level sensor ass'y	1
10.2	Main control board ass'y	1		23	Remote controller	1
10.3	Transformer	1		24	Connecting pipe ass'y	1
10.4	Wire joint, 2p	1		25	Electric throttle ass'y	1
10.5	Motor capacitor	1		26	Panel ass'y	1
10.6	Wire joint	1		26.1	Display board	1
11	E-Part box cover			26.2	Swing motor	1

12. Accessories

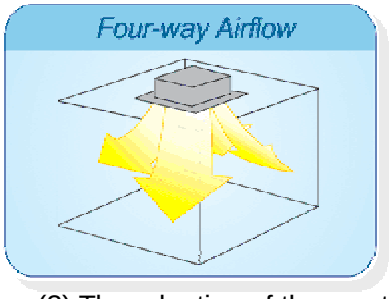
Name	Quantity	Outline	Function
Installation manual	1	(This manual)	——
Remote controller subassembly	1	——	Remote controller the air-conditioner
Pipe insulation material	2		Heat insulation
Accessory drain pipe	1		To connect drain pipe
Adhesive tape for seal	1		To connect drain pipe
Branch pipe	1	——	To connect refrigerant pipe
Remote controller	1		——
Frame	1		——
Mounting screw (ST2.9x10-C-H)	2		——
Alkaline dry batteries(AM4)	2		——
Remote controller manual	2	——	——

Four-way Cassette Type

1. Features....26
2. Specifications....27
3. Dimensions....27
4. Service Space....27
5. Piping Diagrams....27
6. Wiring Diagrams....27
7. Air Velocity and Temperature Distributions....27
8. Capacity Tables....27
9. Electric Characteristics....27
10. Sound Levels....27
11. Exploded View....27
12. Accessories....27

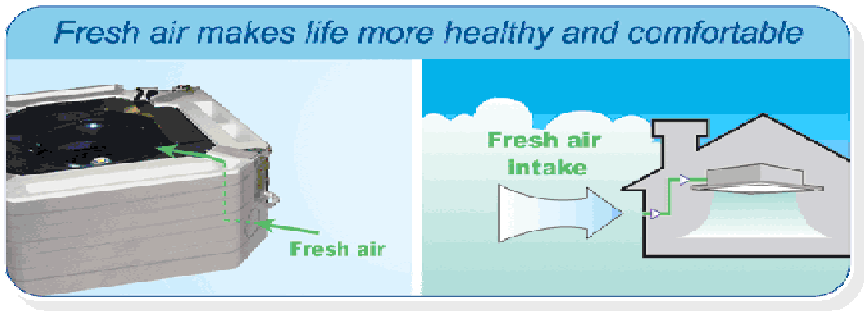
1. Features

(1) Low operation noise
---Streamline plate ensures quietness
---Creates natural and comfortable environment
(2) Efficient cooling
---Equal, fast and wide—range cooling



(3) The adoption of the most advanced 3- Dimensional Screw fan
---Reduces the air resistance passing through
---Smoothes the air flow
---Makes air speed distribution to the heat exchange uniform

(4) Fresh air makes life healthier and more comfortable.



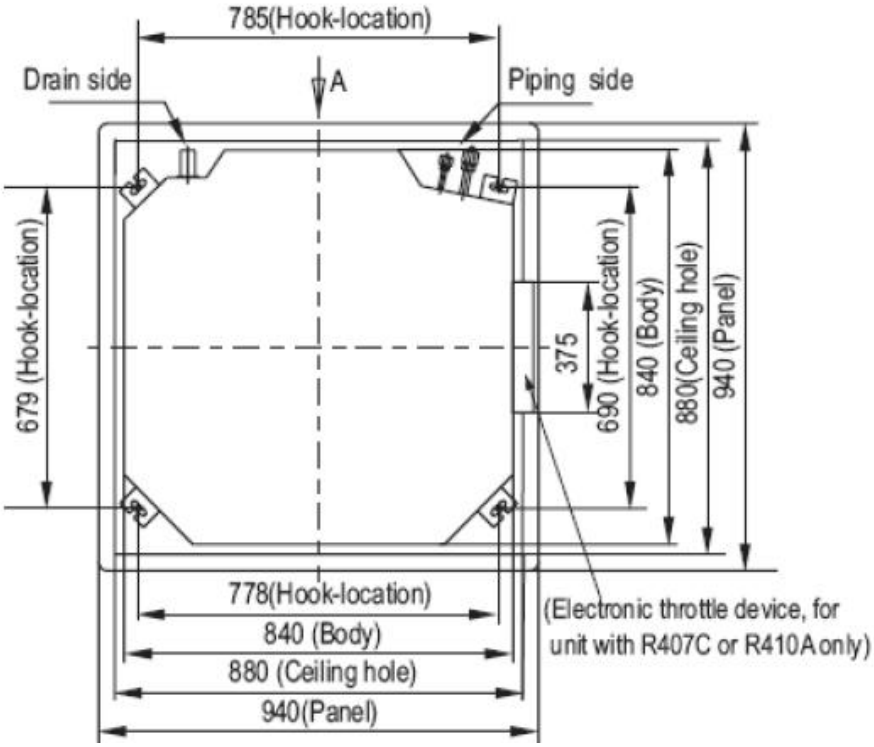
2. Specifications

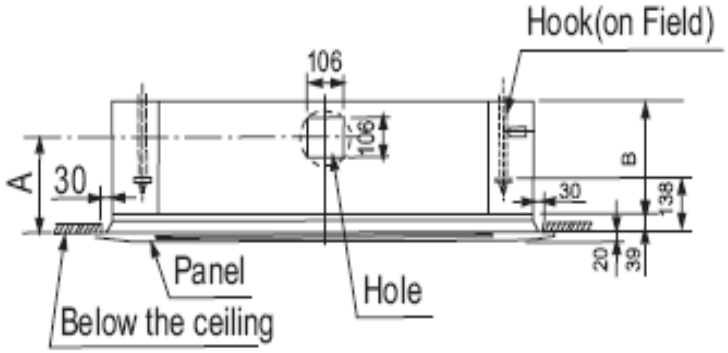
Sale Model				MDV-D56Q4/N1	MDV-D71Q4/N1	MDV-D80Q4/N1
Power supply			V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50
Cooling	Capacity		kW	5.6	7.1	8.0
	Input		W	100	100	100
	Rated current		A	0.7	0.7	0.7
Heating	Capacity		kW	6.3	8.0	9.0
	Input		W	100	100	100
	Rated current		A	0.7	0.7	0.7
Indoor fan motor	Model			YDK25-6	YDK42-6	YDK42-6
	Type			AC MOTOR	AC MOTOR	AC MOTOR
	Brand			YONG AN	YONG AN	YONG AN
	Input		W	75/65/58	95/83/77	95/83/77
	Capacitor		uF	4UF/450V	4UF/450V	4UF/450V
	Speed(hi/mi/lo)		r/min	550/490/440	630/550/470	630/550/470
Indoor coil	a.Number of rows			2	2	2
	b.Tube pitch(a)x row pitch(b)		mm	21x13.37	21x13.37	21x13.37
	c.Fin spacing		mm	1.3	1.3	1.3
	d.Fin type (code)			Hydrophilic aluminum		
	e.Tube outside dia.and type		mm	Φ7	Φ7	Φ7
				Inner groove tube		
	f.Coil length x height x width		mm	1959.4x26.74 x168	1959.4x26.74 x168	1959.4x26.74 x168
	g.Number of circuits			8	8	8
Indoor air flow (Hi/Mi/Lo)			m^3/h	900/800/700	1100/900/780	1100/900/780
Sound level (sound pressure)			dB(A)	39/38/36	39/38/36	39/38/36
Indoor unit	Dimension (W x H x D)		mm	840x 240 x 840	840x 240 x 840	840x 240 x 840
	Packing (W x H x D)		mm	955×260×955	955×260×955	955×260×955
	Net/Gross weight		kg	25/32	25/32	25/32
Panel	Dimension (W x H x D)		mm	940 x40 x940	940 x40 x940	940 x40 x940
	Packing (W x H x D)		mm	1030 x145 x 1030	1030 x145 x 1030	1030 x145 x 1030
	Net/Gross weight		kg	6/11	6/11	6/11
Refrigerant	Type			R410A	R410A	R410A
Design pressure			MPa	4.4/2.5	4.4/2.5	4.4/2.5
Refrigerant piping	Liquid side/ Gas side		mm	Φ9.53/Φ15.9		
Connection wiring	Power wiring		mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring		mm^2	3×1.0		
Drainage water pipe dia.			mm	Φ32	Φ32	Φ32
Wireless remote controller				R51/E(standard)		
Operation temp			℃	17～30		
Application area			m^2	22	28	32

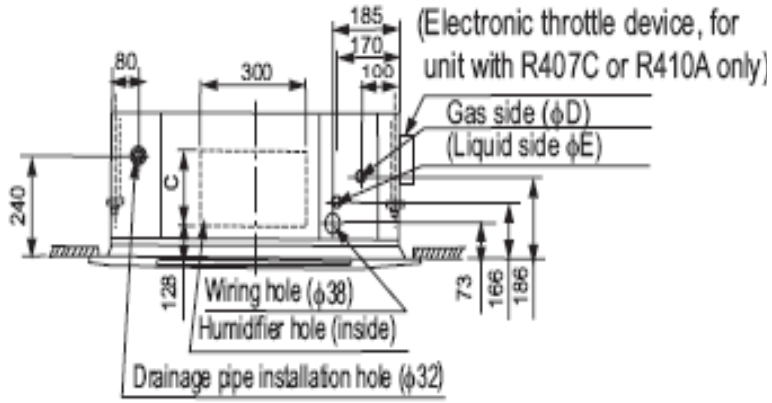
Sale Model				MDV-D90Q4/N1
Power supply			V-ph-Hz	220~240-1-50
Cooling	Capacity		kW	9
	Input		W	130
	Rated current		A	0.7
Heating	Capacity		kW	10
	Input		W	130
	Rated current		A	0.7
Indoor fan motor	Model			YDK56-6G
	Type			AC MOTOR
	Input		W	112/96/84
	Capacitor		uF	3.5UF/450V
	Speed(hi/mi/lo)		r/min	630/580/530
Indoor coil	a.Number of rows			2
	b.Tube pitch(a)x row pitch(b)		mm	21x13.37
	c.Fin spacing		mm	1.4
	d.Fin type (code)			Hydrophilic aluminum
	e.Tube outside dia.and type		mm	Φ7
				Inner groove tube
	f.Coil length x height x width		mm	1959.4x26.74 x252
	g.Number of circuits			12
Indoor air flow (Hi/Mi/Lo)			m^3/h	1500/1300/1100
Sound level (sound pressure)			dB(A)	40/38/36
Indoor unit	Dimension (W x H x D)		mm	840 x 310 x 840
	Packing (W x H x D)		mm	955×325×955
	Net/Gross weight		kg	34/42
Panel	Dimension (W x H x D)		mm	940 x40 x940
	Packing (W x H x D)		mm	1030 x145 x1030
	Net/Gross weight		kg	39610
Refrigerant	Type			R410A
Design pressure			MPa	4.4/2.5
Refrigerant piping		Liquid side/ Gas side	mm	Φ9.53/Φ15.9
Connection wiring		Power wiring	mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)
		Signal wiring	mm^2	3×1.0
Drainage water pipe dia.			mm	Φ32
Wireless remote controller				R51/E(standard)
Operation temp			℃	17～30
Application area			m^2	36

Sale Model			MDV-D112Q4/N1	MDV-D140Q4/N1
Power supply		V-ph-Hz	220~240-1-50	220~240-1-50
Cooling	Capacity	kW	11.2	14.0
	Input	W	145	145
	Rated current	A	0.7	0.7
Heating	Capacity	kW	12.5	15.5
	Input	W	145	145
	Rated current	A	0.7	0.7
Indoor fan motor	Model		YDK56-6G	YDK56-6G
	Type		AC MOTOR	AC MOTOR
	Input	W	112/96/84	131/112/ 96
	Capacitor	uF	3.5UF/450V	3.5UF/450V
	Speed(hi/mi/lo)	r/min	630/580/530	680/630/580
Indoor coil	a.Number of rows		2	2
	b.Tube pitch(a)x row pitch(b)	mm	21x13.37	21x13.37
	c.Fin spacing	mm	1.4	1.4
	d.Fin type (code)		Hydrophilic aluminum	
	e.Tube outside dia.and type	mm	Φ7	Φ7
			Inner groove tube	
	f.Coil length x height x width	mm	1959.4x26.74 x252	1959.4x26.74 x252
	g.Number of circuits		12	12
Indoor air flow (Hi/Mi/Lo)		m^3/h	1500/1300/1100	1500/1300/1100
Sound level (sound pressure)		dB(A)	40/38/36	40/38/36
Indoor unit	Dimension (W x H x D)	mm	840 x 310 x 840	840x310x840
	Packing (W x H x D)	mm	955×325×955	955×325×955
	Net/Gross weight	kg	34/42	34/42
Panel	Dimension (W x H x D)	mm	940 x40 x940	940 x40 x940
	Packing (W x H x D)	mm	1030 x145 x1030	1030 x145 x1030
	Net/Gross weight	kg	6/11	6/11
Refrigerant	Type		R410A	R410A
Design pressure		MPa	4.2/2.5	4.2/2.5
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9
Connection wiring	Power wiring	mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)	
	Signal wiring	mm^2	3×1.0	
Drainage water pipe dia.		mm	Φ32	Φ32
Controller			Wireless remote controller R51(standard)	
Operation temp		℃	17～30	
Application area		m^2	36	70～93.3

3. Dimensions

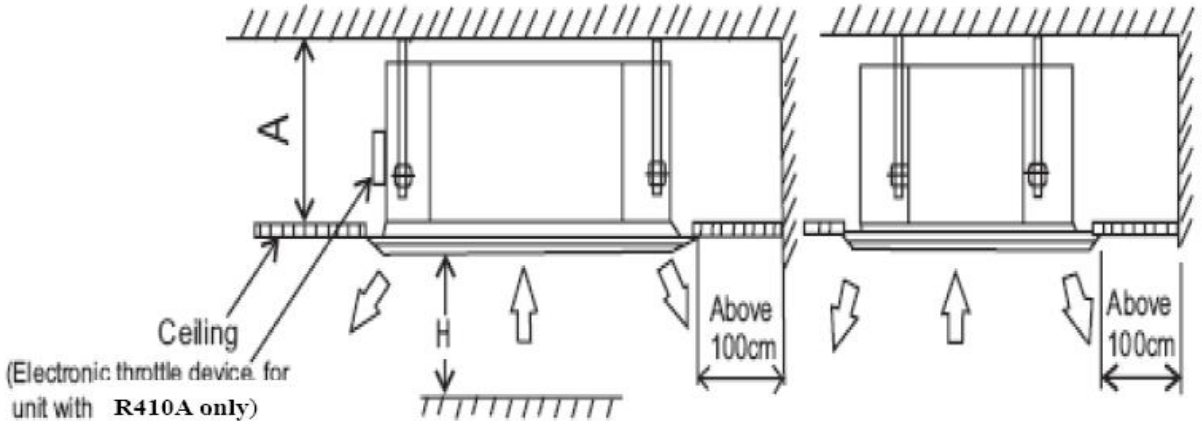






Model	Cooling capacity(w)	A	B	C	D	E
56-80	5600~8000	196	230	130	Φ9.53	Φ19
90-140	9000~11200	246	310	180	Φ9.53	Φ19

4. Service Space

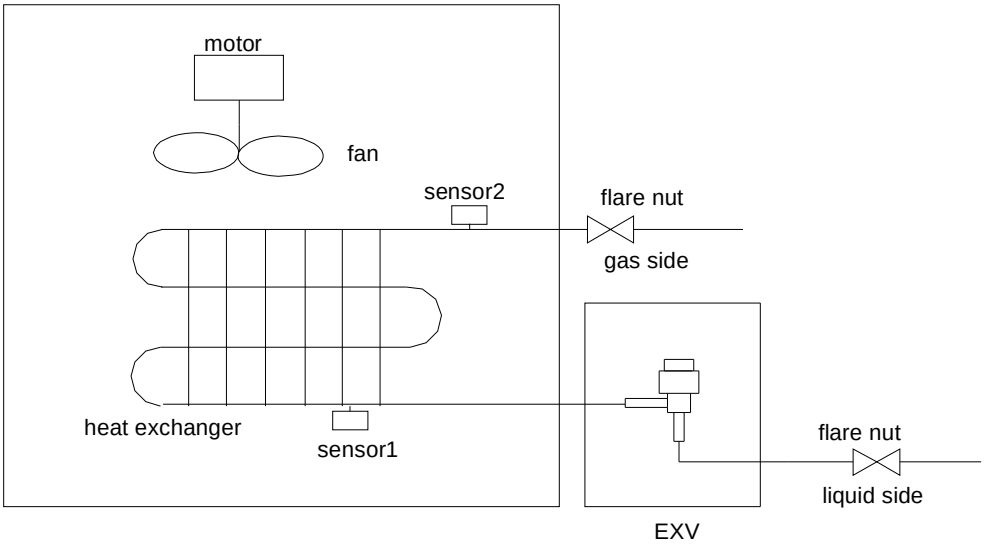


Obstacle

Model	Cooling capacity(W)	Size A(mm) Ceiling Height
56~80	5600~8000	Above 315
90~140	9000~11200	Above 365

5. Piping Diagrams

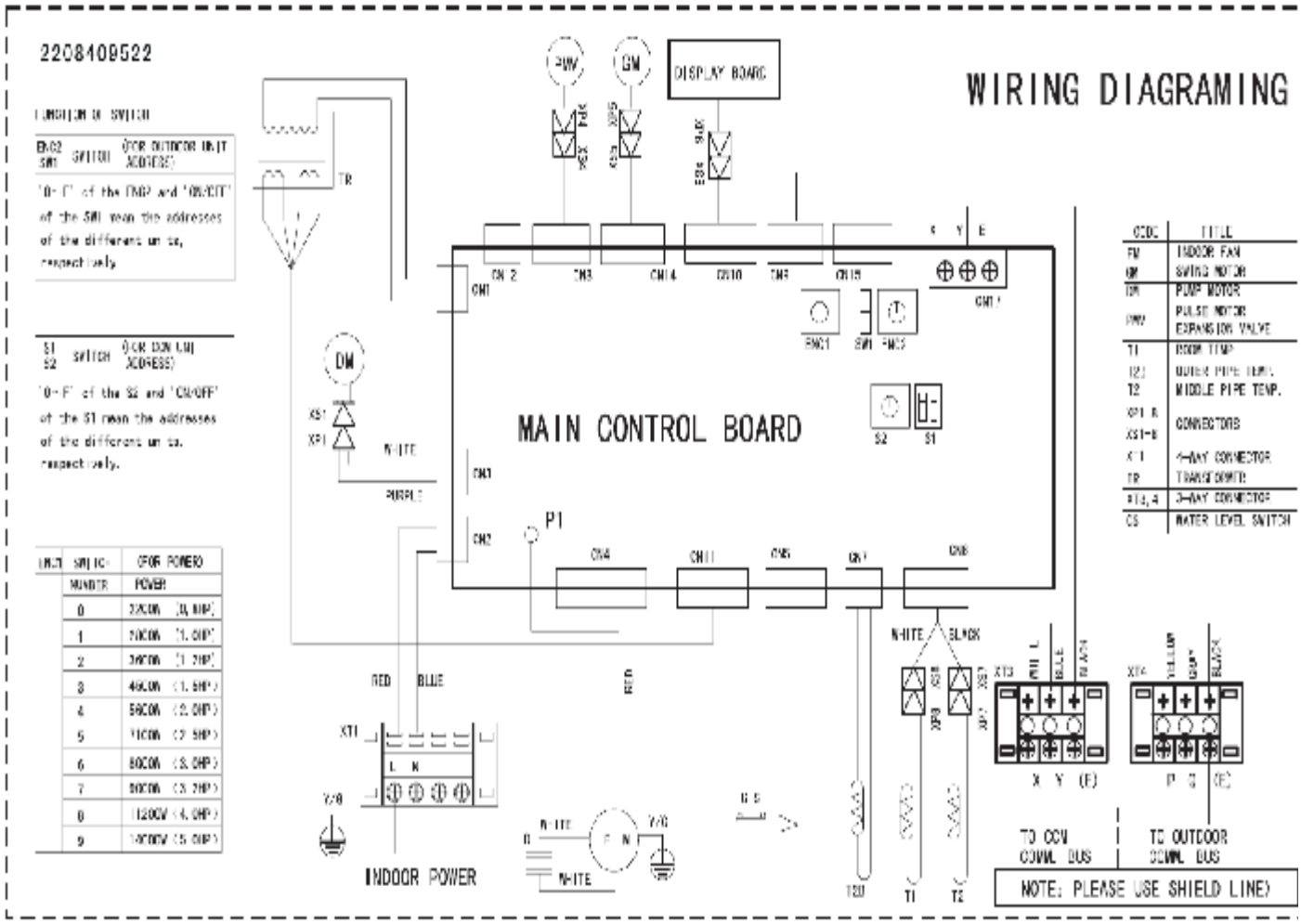
MDV-D56Q4/N1、MDV-D71Q4/N1、MDV-D80Q4/N1、MDV-D90Q4/N1、MDV-D112Q4/N1、MDV-D140Q4/N1



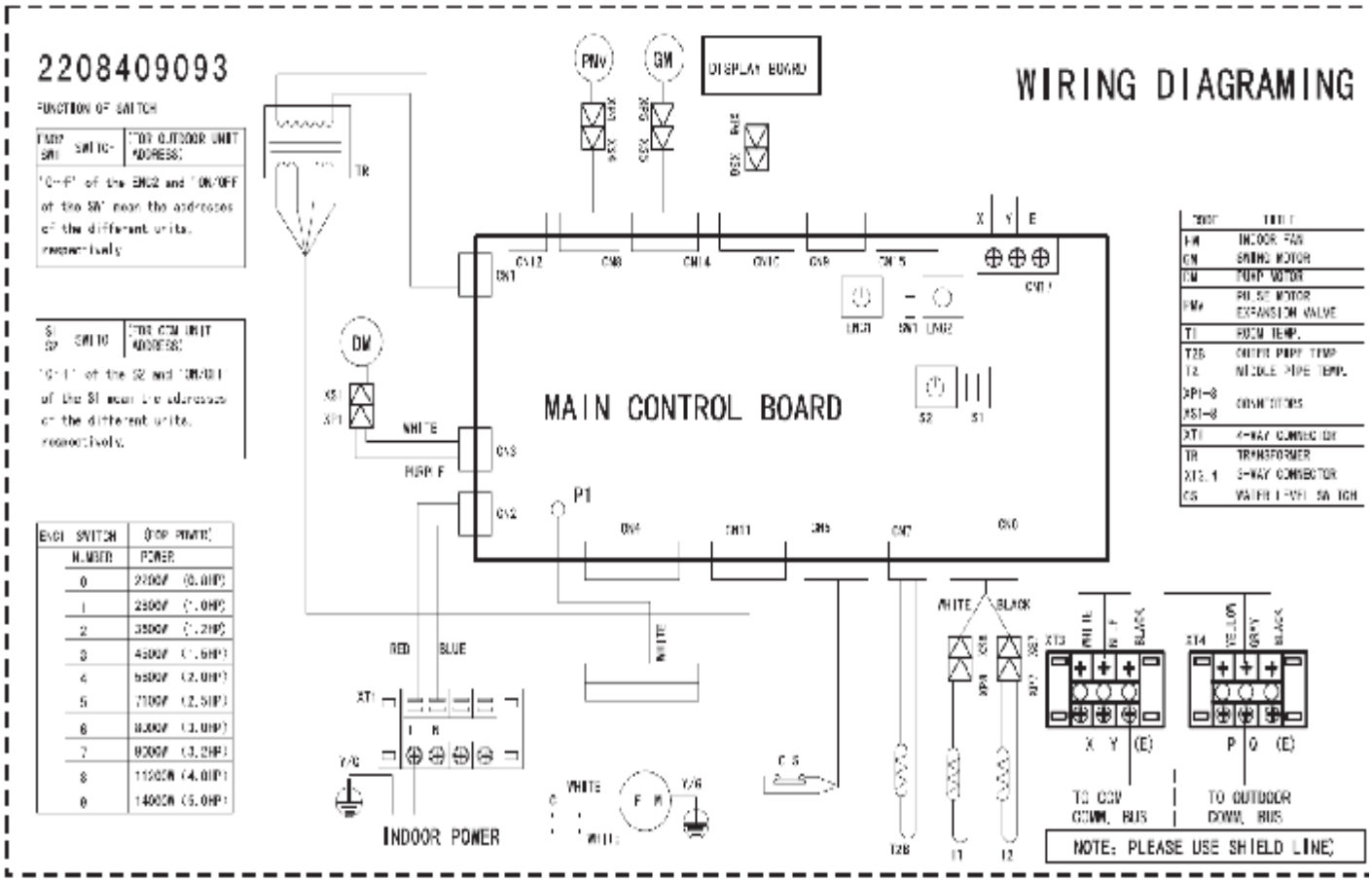
Sensor1: T2
Sensor2: T2B

6. Wiring Diagrams

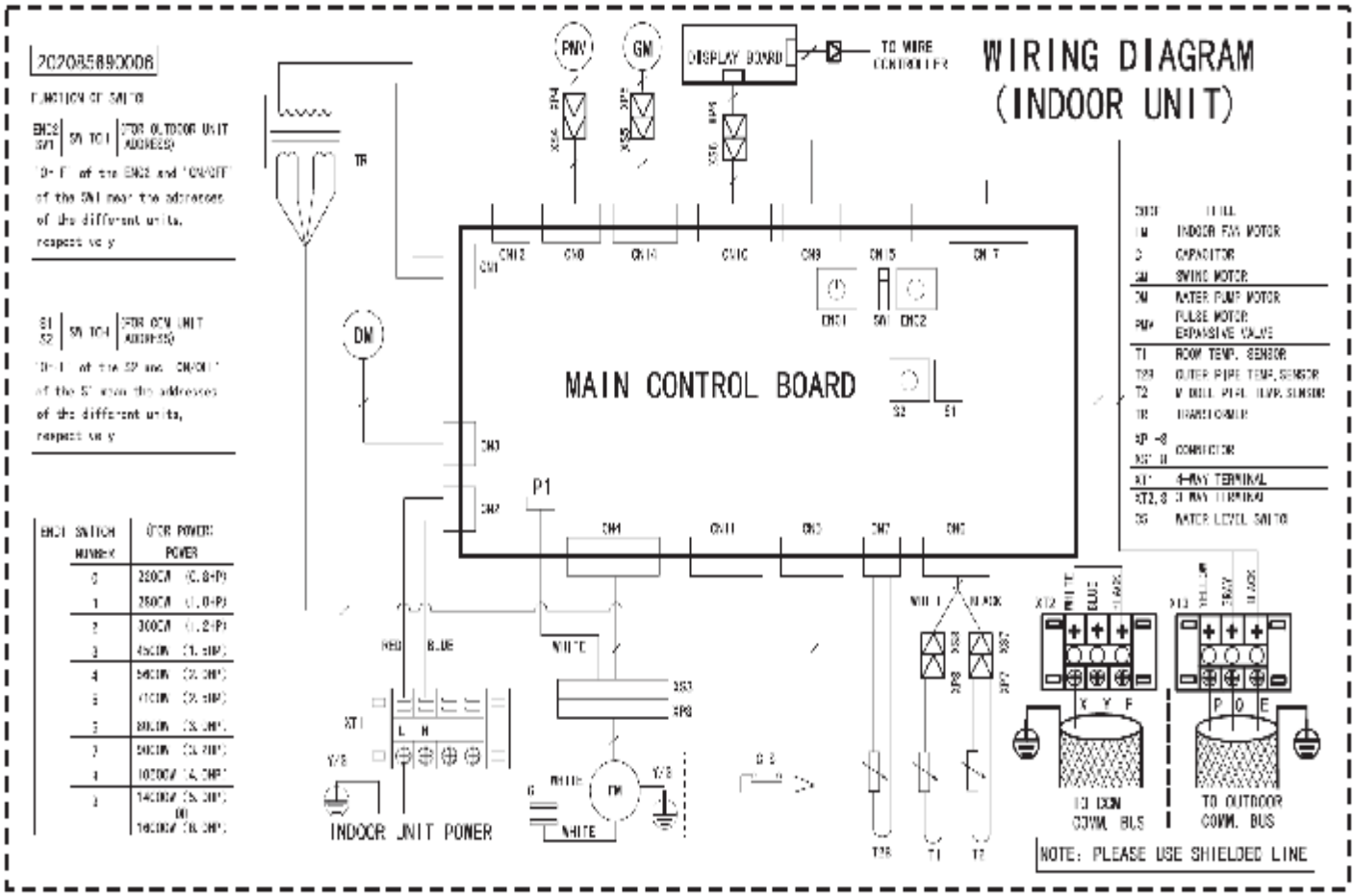
MDV-D56Q4/N1、MDV-D71Q4/N1、MDV-D80Q4/N1



MDV-D90Q4/N1、MDV-D112Q4/N1

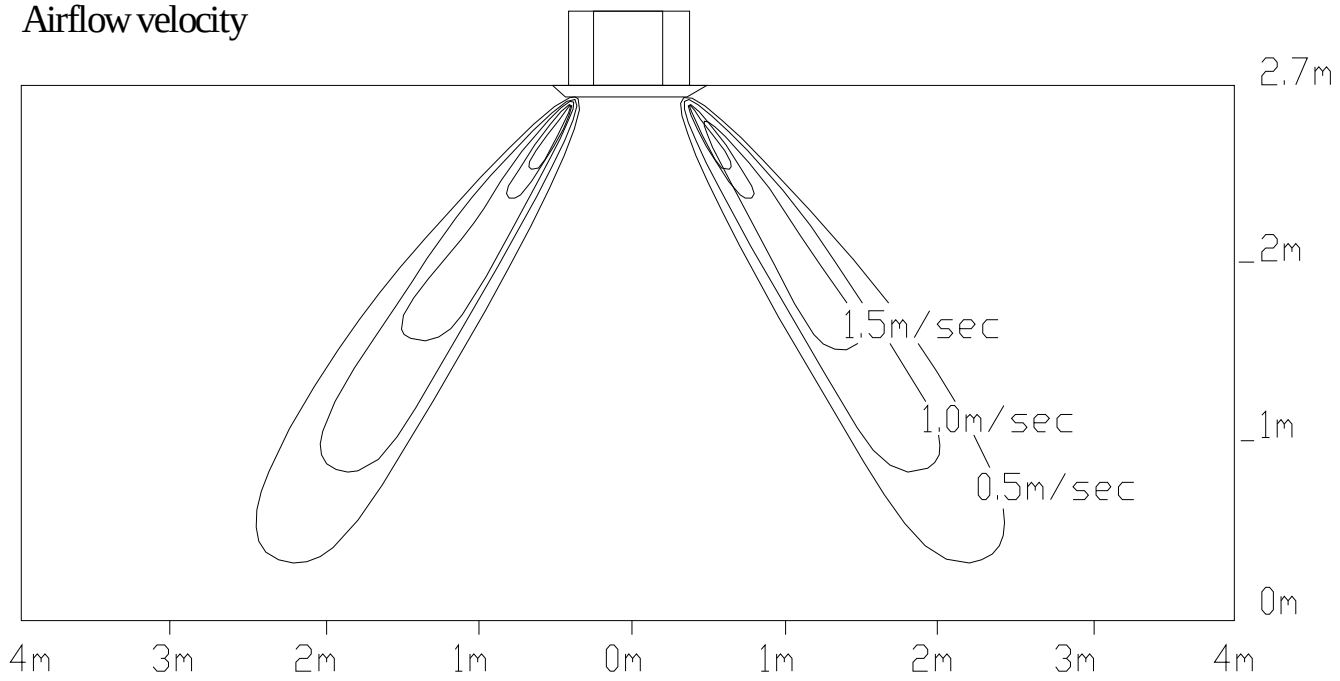


MDV-D140Q4/N1

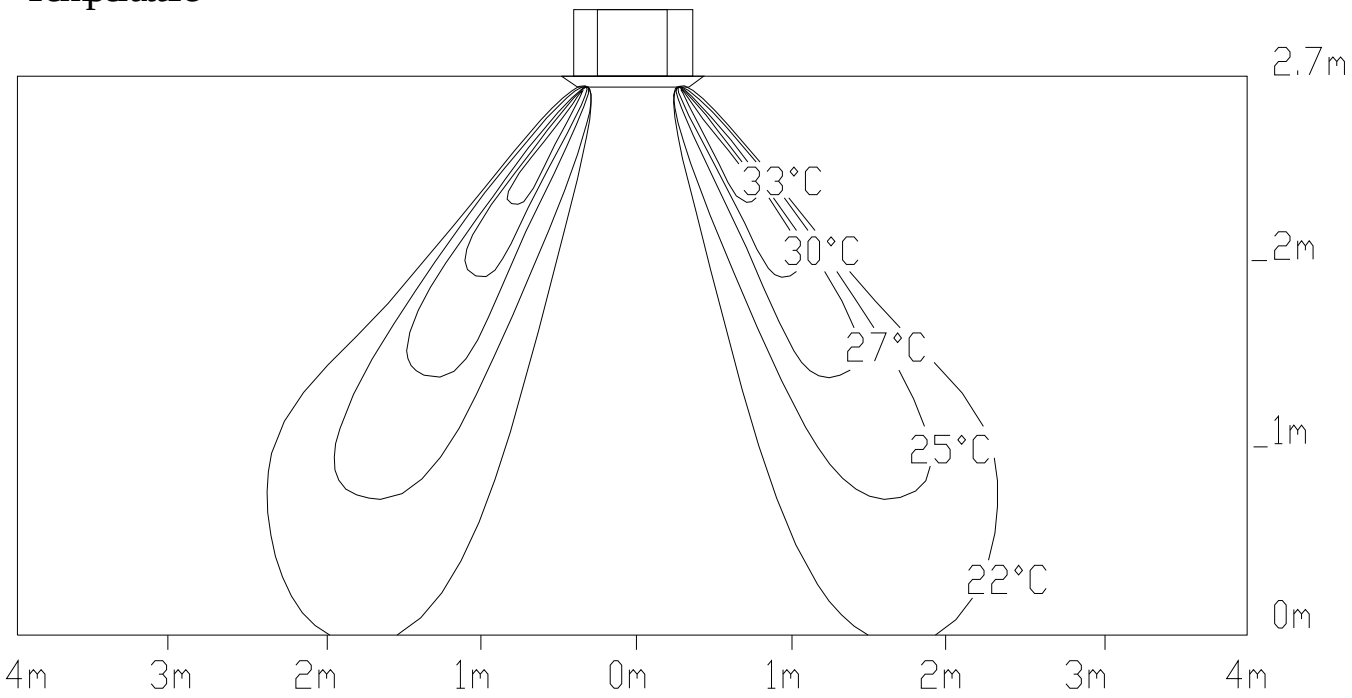


7. Air Velocity and Temperature Distributions

Airflow velocity



Temperature



8. Capacity Tables

8.1 Cooling

TH: total capacity **SH**: sensible capacity

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
5.6	10	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	12	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	14	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.2	4.1
	16	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	18	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	20	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	21	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.0	4.1
	23	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	25	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.5	4.1	6.8	3.9
	27	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.4	4.0	6.5	3.8
	29	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.3	4.0	6.4	3.7
	31	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.2	3.9	6.3	3.7
	33	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.0	3.8	6.3	3.7
	35	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.7	6.2	3.6
	37	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.9	6.1	3.5
	39	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	5.7	3.8	5.8	3.8	6.0	3.5
7.1	10	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.2	4.9
	12	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.1	4.8
	14	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.0	4.8
	16	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.9	4.7
	18	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.7	4.7
	20	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.5	4.6
	21	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.4	4.5
	23	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.3	4.5
	25	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.2	4.4
	27	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.1	4.9	8.2	4.4
	29	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.0	4.8	8.1	4.5
	31	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.9	4.7	7.8	4.4
	33	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.8	4.7	7.8	4.4
	35	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.6	4.6	7.7	4.3
	37	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.5	4.5	7.6	4.3
	39	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.2	4.6	7.4	4.4	7.6	4.3
8.0	10	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.4	5.6
	12	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.2	5.5
	14	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.2	5.5
	16	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.0	5.4
	18	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.8	5.3
	20	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.6	5.2
	21	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.4	5.1

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
9.0	23	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.4	5.1
	25	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.3	5.0
	27	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.1	5.3	9.2	5.1
	29	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	9.0	5.3	9.1	5.0
	31	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.9	5.2	8.8	4.8
	33	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.8	5.2	8.8	4.8
	35	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.6	5.1	8.6	4.8
	37	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.3	5.4	8.4	5.0	8.6	4.9
	39	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.1	5.3	8.3	5.0	8.6	4.9
11.2	10	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	11.7	6.6
	12	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	11.5	6.5
	14	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	11.4	6.4
	16	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	11.3	6.3
	18	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	11.0	6.3
	20	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	10.8	6.2
	21	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	10.6	6.1
	23	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	10.5	6.0
	25	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	10.4	6.0
	27	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.3	6.4	10.4	5.9
	29	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.1	6.2	10.3	5.8
	31	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.0	6.2	9.9	5.7
	33	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	9.9	6.1	9.9	5.7
	35	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.5	6.5	9.6	6.0	9.7	5.7
	37	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.3	6.3	9.5	5.9	9.6	5.8
	39	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.2	6.2	9.4	5.8	9.6	5.8
14.0	10	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	15.5	9.0
	12	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	14.4	8.4
	14	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	14.2	8.2
	16	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	14.1	8.2
	18	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	14.0	8.1
	20	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	13.9	8.1
	21	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	13.8	8.0
	23	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.1	8.1	13.7	7.9
	25	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.0	8.1	13.6	7.9
	27	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	12.9	8.0	13.4	7.8
	29	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	12.8	7.9	13.3	7.9
	31	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	12.7	7.8	12.8	7.5
	33	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	12.5	7.8	12.5	7.4
	35	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.8	8.0	12.4	7.7	12.3	7.3
	37	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.6	7.9	12.3	7.6	12.1	7.1
	39	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.4	7.8	12.2	7.6	11.9	7.1
14.0	10	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.7	10.3	19.3	11.2

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	12	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.7	10.3	18.1	10.5
	14	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.7	10.3	17.8	10.3
	16	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.7	10.3	17.6	10.2
	18	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.7	10.3	17.5	10.2
	20	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.7	10.3	17.4	10.1
	21	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.7	10.3	17.2	10.0
	23	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.4	10.2	17.1	9.9
	25	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.2	10.1	16.9	9.8
	27	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.1	10.0	16.8	9.7
	29	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	16.0	9.9	16.7	9.8
	31	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	15.8	9.8	16.0	9.4
	33	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.8	10.1	15.7	9.7	15.7	9.3
	35	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.7	10.0	15.5	9.6	15.4	9.1
	37	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.6	9.9	15.4	9.5	15.1	8.9
	39	9.7	8.0	11.3	8.8	13.2	9.6	14.0	9.8	14.3	9.7	15.3	9.5	14.8	8.9

8.2 Heating

TC: total capacity

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16	18	20	21	22	24
			TC	TC	TC	TC	TC	TC
	WB	DB	kW	kW	kW	kW	kW	kW
5.6	-15.00	-14.70	3.97	3.97	3.97	3.97	3.97	3.97
	-13.00	-12.60	4.22	4.22	4.22	4.22	4.22	4.22
	-11.00	-10.50	4.41	4.41	4.41	4.41	4.41	4.41
	-10.00	-9.50	4.60	4.60	4.60	4.60	4.60	4.60
	-9.10	-8.50	4.73	4.73	4.73	4.73	4.73	4.73
	-7.60	-7.00	4.79	4.79	4.79	4.79	4.79	4.79
	-5.60	-5.00	4.98	4.98	4.98	4.98	4.98	4.98
	-3.70	-3.00	5.23	5.23	5.23	5.23	5.23	5.23
	-0.70	0.00	5.61	5.61	5.61	5.61	5.61	5.29
	2.20	3.00	5.92	5.92	5.92	5.92	5.80	5.29
	4.10	5.00	6.11	6.11	6.11	6.11	5.80	5.29
	6.00	7.00	6.30	6.30	6.30	6.11	5.80	5.29
	7.90	9.00	6.49	6.49	6.30	6.11	5.80	5.29
	9.80	11.00	6.68	6.68	6.30	6.11	5.80	5.29
	11.80	13.00	6.93	6.80	6.30	6.11	5.80	5.29
	13.70	15.00	7.12	6.80	6.30	6.11	5.80	5.29
7.1	-15.00	-14.70	5.04	5.04	5.04	5.04	5.04	5.04
	-13.00	-12.60	5.36	5.36	5.36	5.36	5.36	5.36
	-11.00	-10.50	5.60	5.60	5.60	5.60	5.60	5.60
	-10.00	-9.50	5.84	5.84	5.84	5.84	5.84	5.84
	-9.10	-8.50	6.00	6.00	6.00	6.00	6.00	6.00

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16	18	20	21	22	24
			TC	TC	TC	TC	TC	TC
	WB	DB	kW	kW	kW	kW	kW	kW
	-7.60	-7.00	6.08	6.08	6.08	6.08	6.08	6.08
	-5.60	-5.00	6.32	6.32	6.32	6.32	6.32	6.32
	-3.70	-3.00	6.64	6.64	6.64	6.64	6.64	6.64
	-0.70	0.00	7.12	7.12	7.12	7.12	7.12	6.72
	2.20	3.00	7.52	7.52	7.52	7.52	7.36	6.72
	4.10	5.00	7.76	7.76	7.76	7.76	7.36	6.72
	6.00	7.00	8.00	8.00	8.00	7.76	7.36	6.72
	7.90	9.00	8.24	8.24	8.00	7.76	7.36	6.72
	9.80	11.00	8.48	8.48	8.00	7.76	7.36	6.72
	11.80	13.00	8.80	8.64	8.00	7.76	7.36	6.72
	13.70	15.00	9.04	8.64	8.00	7.76	7.36	6.72
8.0	-15	-14.7	5.67	5.67	5.67	5.67	5.67	5.67
	-13	-12.6	6.03	6.03	6.03	6.03	6.03	6.03
	-11	-10.5	6.30	6.30	6.30	6.30	6.30	6.30
	-10	-9.5	6.57	6.57	6.57	6.57	6.57	6.57
	-9.1	-8.5	6.75	6.75	6.75	6.75	6.75	6.75
	-7.6	-7	6.84	6.84	6.84	6.84	6.84	6.84
	-5.6	-5	7.11	7.11	7.11	7.11	7.11	7.11
	-3.7	-3	7.47	7.47	7.47	7.47	7.47	7.47
	-0.7	0	8.01	8.01	8.01	8.01	8.01	7.56
	2.2	3	8.46	8.46	8.46	8.46	8.28	7.56
	4.1	5	8.73	8.73	8.73	8.73	8.28	7.56
	6	7	9.00	9.00	9.00	8.73	8.28	7.56
	7.9	9	9.27	9.27	9.00	8.73	8.28	7.56
	9.8	11	9.54	9.54	9.00	8.73	8.28	7.56
	11.8	13	9.90	9.72	9.00	8.73	8.28	7.56
	13.7	15	10.17	9.72	9.00	8.73	8.28	7.56
9.0	-15	-14.7	6.30	6.30	6.30	6.30	6.30	6.30
	-13	-12.6	6.70	6.70	6.70	6.70	6.70	6.70
	-11	-10.5	7.00	7.00	7.00	7.00	7.00	7.00
	-10	-9.5	7.30	7.30	7.30	7.30	7.30	7.30
	-9.1	-8.5	7.50	7.50	7.50	7.50	7.50	7.50
	-7.6	-7	7.60	7.60	7.60	7.60	7.60	7.60
	-5.6	-5	7.90	7.90	7.90	7.90	7.90	7.90
	-3.7	-3	8.30	8.30	8.30	8.30	8.30	8.30
	-0.7	0	8.90	8.90	8.90	8.90	8.90	8.40
	2.2	3	9.40	9.40	9.40	9.40	9.20	8.40
	4.1	5	9.70	9.70	9.70	9.70	9.20	8.40
	6	7	10.00	10.00	10.00	9.70	9.20	8.40
	7.9	9	10.30	10.30	10.00	9.70	9.20	8.40
	9.8	11	10.60	10.60	10.00	9.70	9.20	8.40
	11.8	13	11.00	10.80	10.00	9.70	9.20	8.40

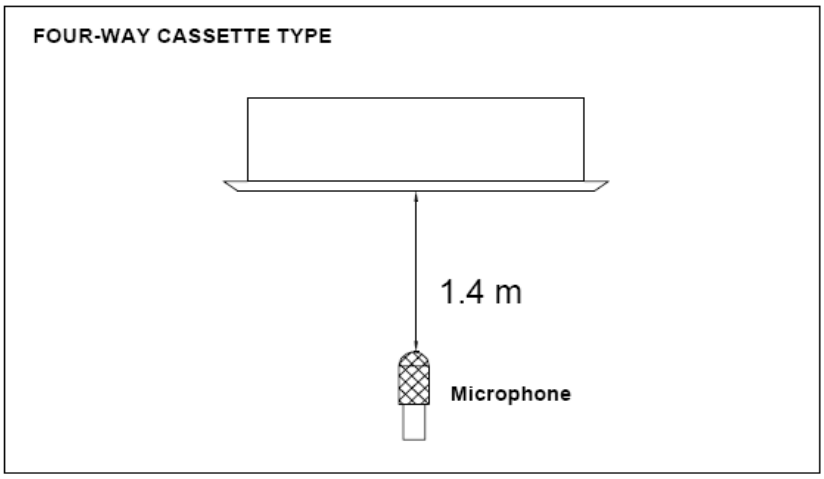
Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16	18	20	21	22	24
			TC	TC	TC	TC	TC	TC
	WB	DB	kW	kW	kW	kW	kW	kW
	13.7	15	11.30	10.80	10.00	9.70	9.20	8.40
11.2	-15	-14.7	7.88	7.88	7.88	7.88	7.88	7.88
	-13	-12.6	8.38	8.38	8.38	8.38	8.38	8.38
	-11	-10.5	8.75	8.75	8.75	8.75	8.75	8.75
	-10	-9.5	9.13	9.13	9.13	9.13	9.13	9.13
	-9.1	-8.5	9.38	9.38	9.38	9.38	9.38	9.38
	-7.6	-7	9.50	9.50	9.50	9.50	9.50	9.50
	-5.6	-5	9.88	9.88	9.88	9.88	9.88	9.88
	-3.7	-3	10.38	10.38	10.38	10.38	10.38	10.38
	-0.7	0	11.13	11.13	11.13	11.13	11.13	10.50
	2.2	3	11.75	11.75	11.75	11.75	11.50	10.50
	4.1	5	12.13	12.13	12.13	12.13	11.50	10.50
	6	7	12.50	12.50	12.50	12.13	11.50	10.50
	7.9	9	12.88	12.88	12.50	12.13	11.50	10.50
	9.8	11	13.25	13.25	12.50	12.13	11.50	10.50
	11.8	13	13.75	13.50	12.50	12.13	11.50	10.50
	13.7	15	14.13	13.50	12.50	12.13	11.50	10.50
14.0	-15	-14.7	9.77	9.77	9.77	9.77	9.77	9.77
	-13	-12.6	10.39	10.39	10.39	10.39	10.39	10.39
	-11	-10.5	10.85	10.85	10.85	10.85	10.85	10.85
	-10	-9.5	11.32	11.32	11.32	11.32	11.32	11.32
	-9.1	-8.5	11.63	11.63	11.63	11.63	11.63	11.63
	-7.6	-7	11.78	11.78	11.78	11.78	11.78	11.78
	-5.6	-5	12.25	12.25	12.25	12.25	12.25	12.25
	-3.7	-3	12.87	12.87	12.87	12.87	12.87	12.87
	-0.7	0	13.80	13.80	13.80	13.80	13.80	13.02
	2.2	3	14.57	14.57	14.57	14.57	14.26	13.02
	4.1	5	15.04	15.04	15.04	15.04	14.26	13.02
	6	7	15.50	15.50	15.50	15.04	14.26	13.02
	7.9	9	15.97	15.97	15.50	15.04	14.26	13.02
	9.8	11	16.43	16.43	15.50	15.04	14.26	13.02
	11.8	13	17.05	16.74	15.50	15.04	14.26	13.02
	13.7	15	17.52	16.74	15.50	15.04	14.26	13.02

9. Electric Characteristics

Model	Indoor Unit				Power Supply	IFM	
	Hz	Voltage	Min.	Max.	MFA	kW	FLA
MDV-D56Q4/N1	50	220-240	198	254	15	0.025	0.36
MDV-D71Q4/N1	50	220-240	198	254	15	0.042	0.43
MDV-D80Q4/N1	50	220-240	198	254	15	0.042	0.43
MDV-D90Q4/N1	50	220-240	198	254	15	0.056	0.51
MDV-D112Q4/N1	50	220-240	198	254	15	0.056	0.51
MDV-D140Q4/N1	50	220-240	198	254	15	0.056	0.51

Remark:
MFA: Max. Fuse Amps. (A)
KW: Fan Motor Rated Output (KW)
FLA: Full Load Amps. (A)
IFM: Indoor Fan Motor

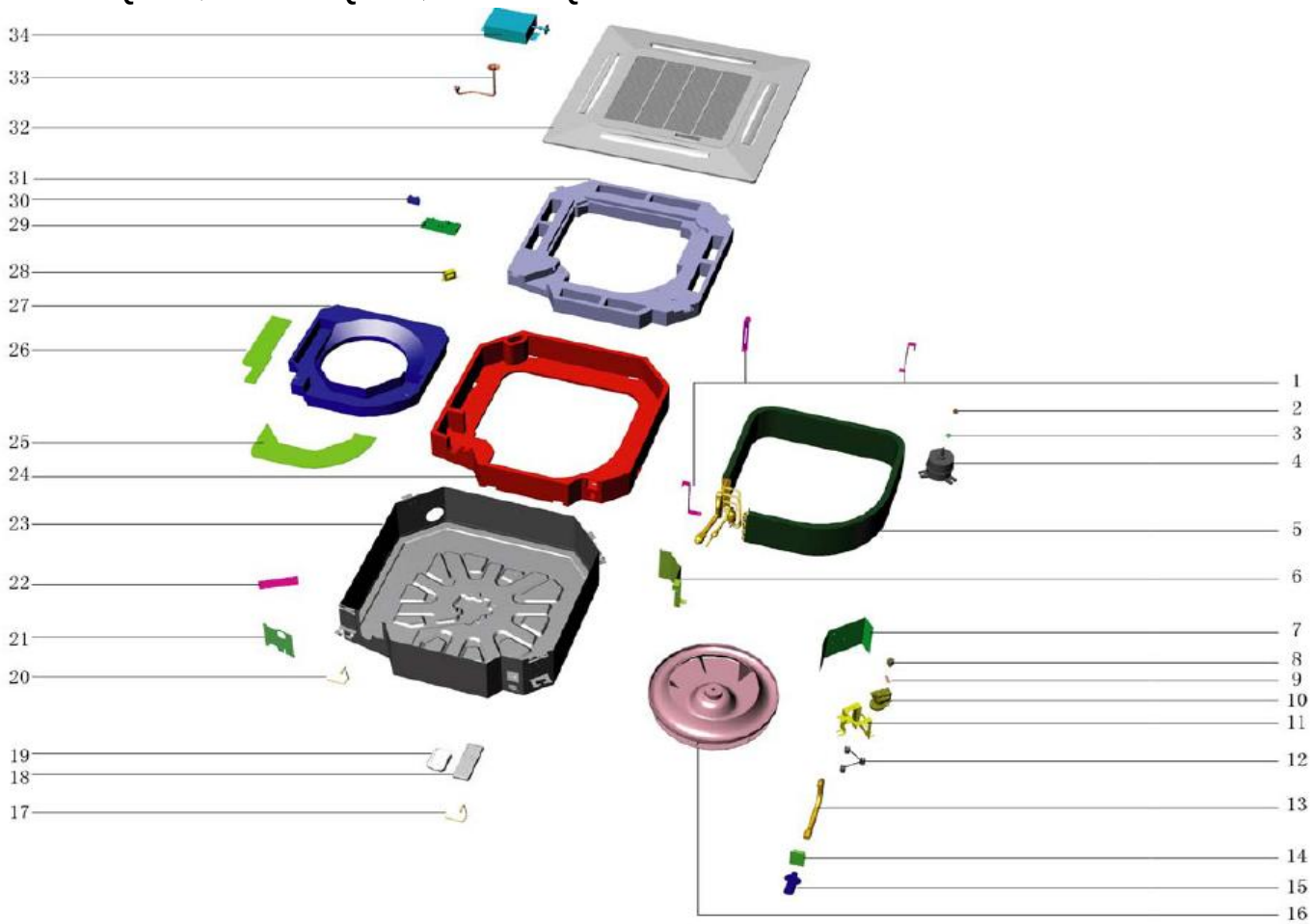
10. Sound Levels



Model	Noise level dB(A)		
	H	M	L
MDV-D56Q4/N1	39	38	36
MDV-D71Q4/N1	39	38	36
MDV-D80Q4/N1	39	38	36
MDV-D90Q4/N1	40	38	36
MDV-D112Q4/N1	40	38	36
MDV-D140Q4/N1	40	38	36

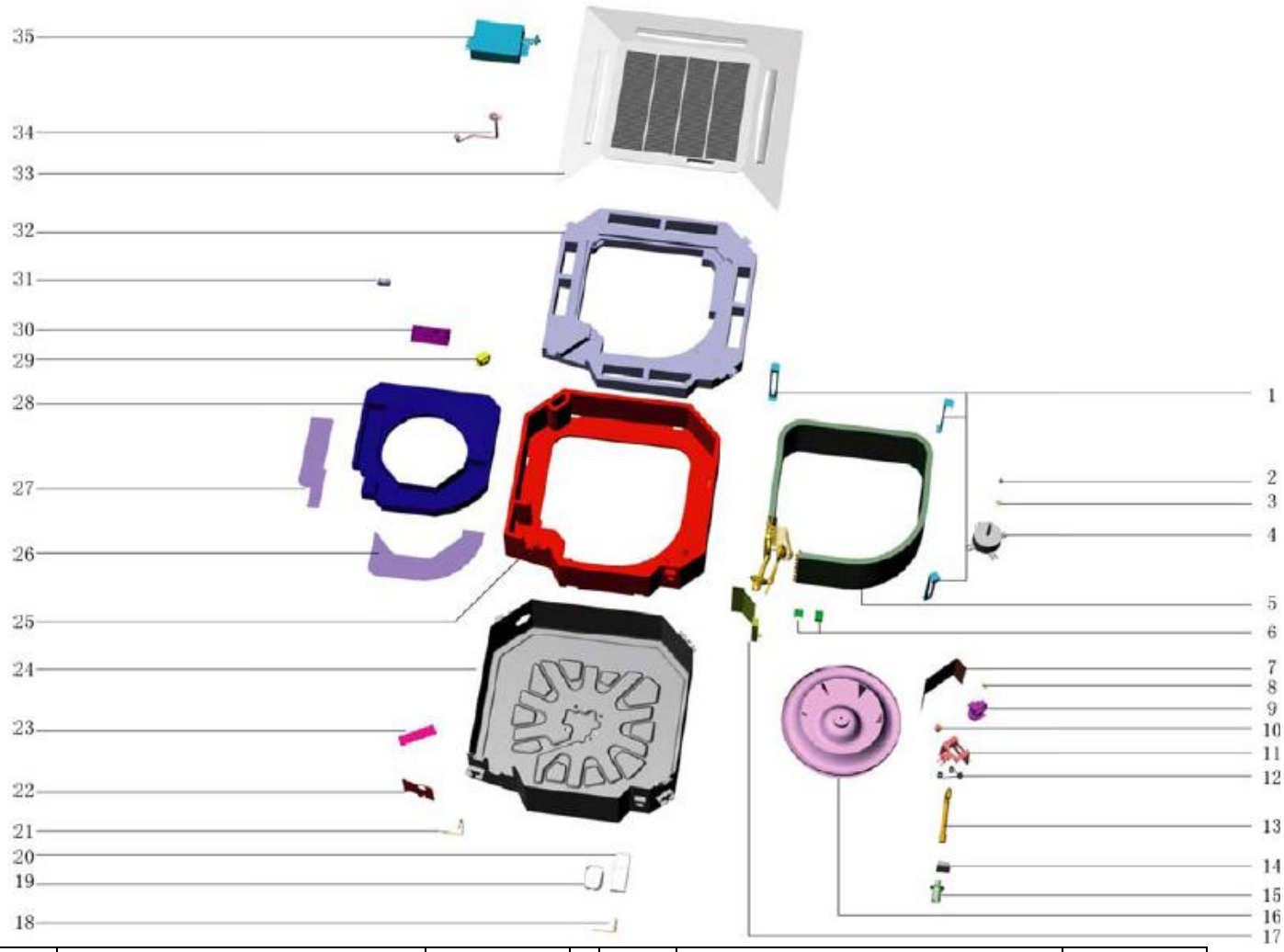
11. Exploded View

MDV-D56Q4/N1、MDV-D71Q4/N1、MDV-D80Q4/N1



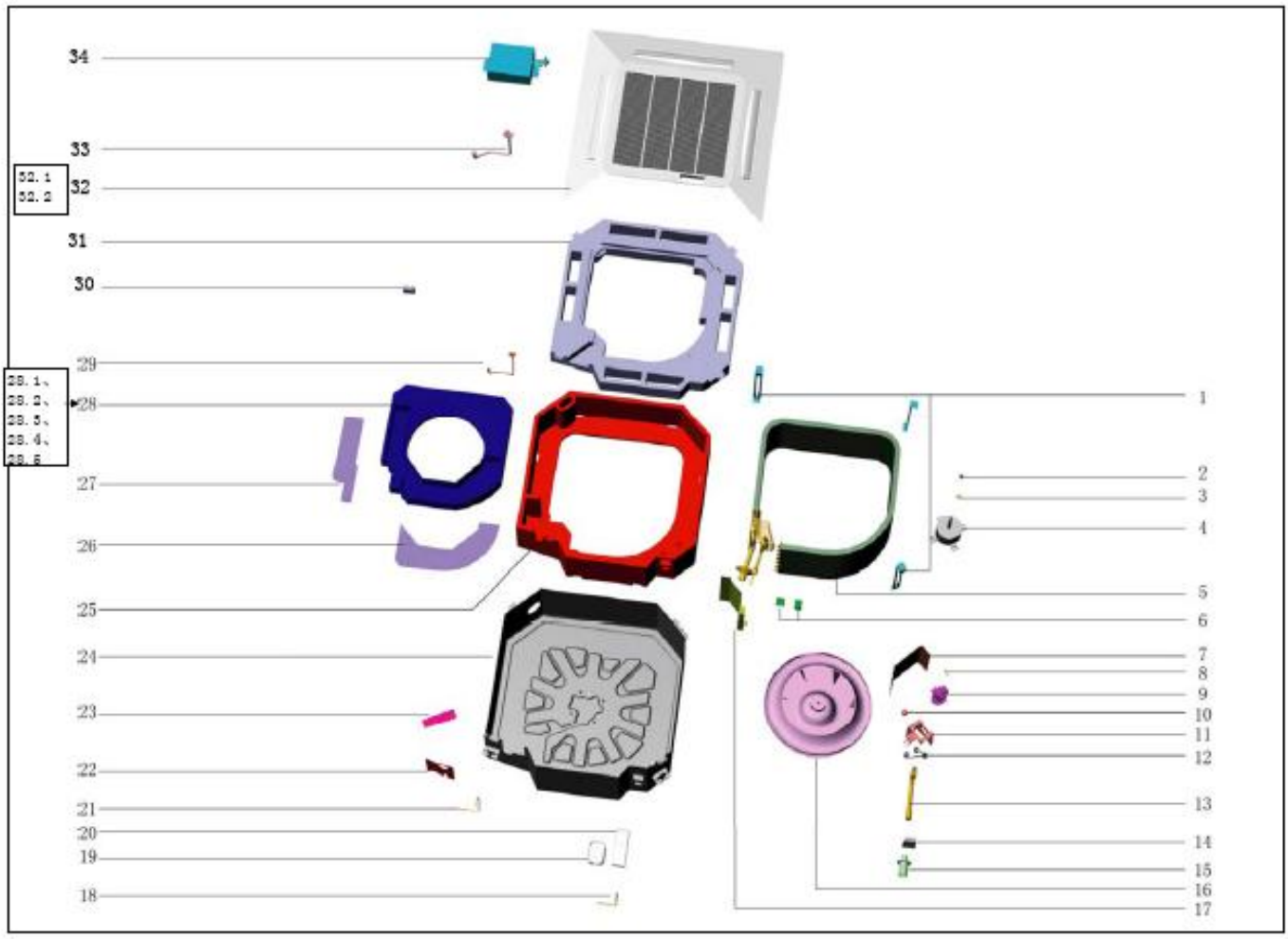
No.	Part Name	Quantity		No.	Part Name	Quantity
1	Evaporator fixing hanger	2		18	Remote controller	1
2	Nut	6		19	Remote controller bracket ass'y	1
3	Fan clip	1		20	Temperature sensor	1
4	Motor	1		21	Sealed board ass'y	1
5	Evaporator ass'y	1		22	Wire clamp	1
6	Evaporator fixing board	1		23	Base ass'y	1
7	Baffle ass'y	1		24	Evaporator base ass'y	1
8	Water level sensor ass'y	1		25	E-Part box cover	1
9	Water pipe clamp	1		26	E-Part box cover	1
10	Drain pump	1		27	E-part ass'y	1
11	Installation bracket ass'y	1		28	Transformer	1
12	Pump rubber washer	1		29	Main control board ass'y	1
13	Water pipe	1		30	Motor capacitor	1
14	Water cover ass'y	1		31	Drainage pan ass'y	1
15	water pipe	1		32	Panel ass'y	1
16	Fan ass'y	1		33	Connecting pipe ass'y	1
17	Room temp sensor ass'y	1		34	Electric throttle assembly	1

MDV-D90Q4/N1、MDV-D112Q4/N1



No.	Part Name	Quantity		No.	Part Name	Quantity
1	Evaporator fixing hanger ass'y	3		19	Remote controller bracket ass'y	1
2	Nut	4		20	Remote controller	1
3	Fan clip	1		21	Temperature sensor	1
4	Fan motor	1		22	Sealed board ass'y	1
5	Evaporator ass'y	1		23	Wire clamp	1
6	Evaporator clip ass'y	2		24	Base ass'y	1
7	Baffle ass'y	1		25	Base ass'y	1
8	Water pipe clamp	1		26	E-Part box cover	1
9	Drain pump	1		27	E-Part box cover	1
10	Water level sensor ass'y	1		28	E-part box ass'y	1
11	Installation bracket ass'y	1		29	Transformer	1
12	Pump rubber washer	3		30	Main control board ass'y	1
13	Water pipe	1		31	Motor capacitor	1
14	Water cover ass'y	1		32	Drainage pan ass'y	1
15	water pipe	1		33	Panel ass'y	1
16	Fan ass'y	1		34	Connecting pipe ass'y	1
17	Evaporator fixing board	1		35	Electric throttle assembly	1
18	Room temp sensor ass'y	1				

MDV-D140Q4/N1



No.	Part Name	Quantity		No.	Part Name	Quantity
1	Evaporator fixing hanger ass'y	3		22	Sealed board ass'y	1
2	Nut	4		23	Wire clamp	1
3	Fan clip	1		24	Base ass'y	1
4	Fan motor	1		25	Base ass'y	1
5	Evaporator ass'y	1		26	E-Part box cover	1
6	Evaporator clip ass'y	1		27	E-Part box cover	1
7	Baffle ass'y	1		28	E-part box ass'y	1
8	Water pipe clamp	1		28.1	E-part box ass'y	1
9	Drain pump	1		28.2	Transformer	1
10	Water level sensor ass'y	1		28.3	Main controller ass'y	1
11	Installation bracket ass'y	1		28.4	Wire joint, 3p	1
12	Pump rubber washer	3		28.5	Wire joint,4p	1
13	Water pipe	1		29	Temperature sensor ass'y	1
14	Water cover ass'y	1		30	Motor capacitor	1
15	Water pipe	1		31	Drainage pan ass'y	1
16	Fan ass'y	1		32	Panel ass'y	1
17	Evaporator fixing board	1		32.1	Swing motor	1
18	Room temp sensor ass'y	1		32.2	Display board ass'y	1
19	Remote controller bracket ass'y	1		33	Connecting pipe ass'y	1
20	Remote controller	1		34	Electric throttle ass'y	1
21	Temperature sensor	1				

12. Accessories

Name	Quantity	Outline	Function
Installation manual	1	This manual	———
Pipe insulation material	2		For heat insulation of pipes connection part.
Installation paper Pattern	1	———	For illustrating the unit body location on the ceiling
Fixing screws for paper Pattern	4	M5X16	For installing the paper pattern.
Heat insulation material	1		For heat insulation of drain pipe connection part.
Gasket	8		For hanging the body.
Hose band	1		For connecting the drain pipe.
Flexible hose	1		For connecting the drain pipe.
Sealing material	1		For sealing at the piping connection part.
Installation indicator	1	———	For confirming the location on the ceiling (With the installation paper pattern).
Remote controller subassembly	1	———	Remote control the air-conditioner.
Drainage plate installation screws	1	———	For installing drainage plate.
Drain pipe loop	4	———	For installing drain pipe.
Drain pipe loop bolt	1	———	For installing drain pipe.
Drain pipe loop bracket	1	———	For installing drain pipe.

New Four-way Cassette Type

1. Features 46
2. Specifications 49
3. Dimensions 52
4. Service Space 53
5. Piping Diagram 54
6. Wiring Diagram 55
7. Capacity Tables 56
8. Air Velocity Distribution 60
9. Electric Characteristics 60
10. Sound Levels 60
11. Exploded view 60
12. Accessories 60

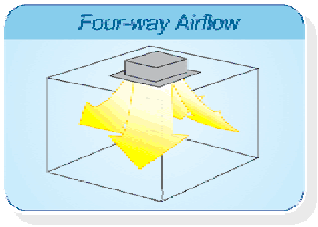
1. Features

(1) Low operation noise

—Streamline plate ensures quietness

—Creates natural and comfortable environment

(2) Efficient cooling——Equal, fast and wide range cooling



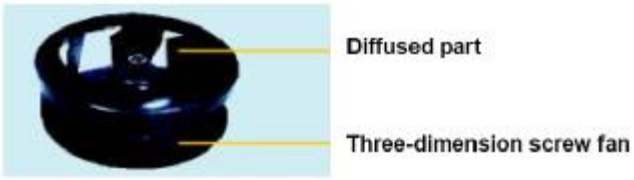
(3) Excellent performance. Fin spacing 1.45mm, higher heat-exchanging efficiency and lower noise. The optimal evaporator & sufficient airflow volume guarantees the excellent capacity

(4) The adoption of the most advanced 3- Dimensional Screw fan

—Reduces the air resistance passing through

—Smoothes the air flow

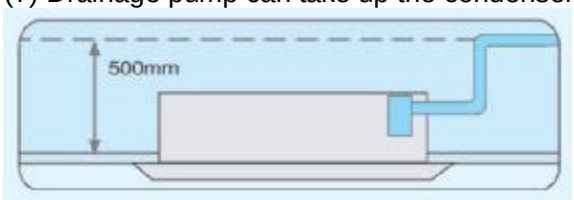
—Makes air speed distribution to the heat exchange uniform



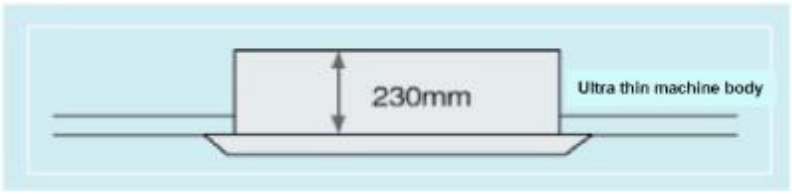
(5) Adding digital tube displaying on the display board. LED can display the Error Code to make the malfunction checking easier.

(6) Fresh air makes life healthier and more comfortable.

(7) Drainage pump can take up the condenser water to 500mm.



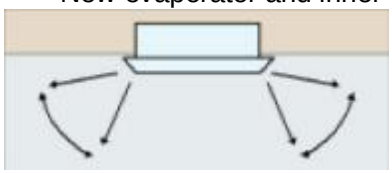
(8) Ultra thin machine body to easy installation and maintenance: 2.8kW~8.0kW:230mm, 9.0kW~11.2kW:300mm.



(9) Different color panels for choose: White、Gray、Blue、Black

(10) Swing angle of louver

1) Add one more swing motor, one motor driving two louvers. Controlling the interspace of each part, minimizing the angle loss.
2) The swing angle of the first louver are 40~42 degrees and the second louver are 37~38 degrees. New evaporator and inner configuration designed can acquire high heat-exchanger effect.



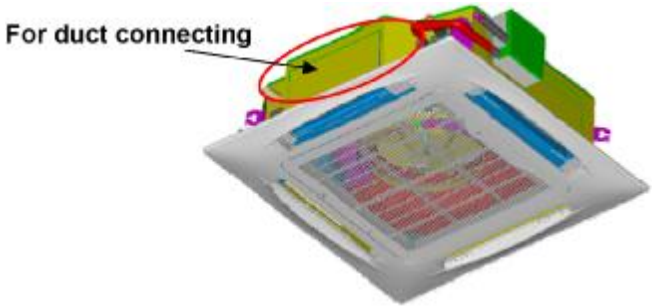
(11) More strengthening rib design around the panel, preventing the distortion for the panel.

(12) New outlet frame design to make the phenomena of coagulation great improvement: prevent the condensing water from damaging the air guide strip.

(13) Adding rib on the panel of fan outlet, which can avoid the air outlet direct flow to people.

(14) 4 speeds available, optional super high fan speed design suitable for the large building over 3m high.

(15) Reserve spaces for air side-outlet, it is available to connect duct pipe hence Air supplying from the four sides to nearby small room..



(16) Optimal design, smaller Control Box, Space saving and convenient for wiring,
Using fire resistance galvanized steel for E-box material. Metal box make the control part more stable and prevent damaging

2. Specifications

Model			MDV-D28Q4/N1-C	MDV-D36Q4/N1-C	MDV-D45Q4/N1-C
Power supply		V-Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	2.8	3.6	4.5
	Input	W	90	90	90
	Rated current	A	0.4	0.4	0.4
Heating	Capacity	kW	3.2	4.0	5.0
	Input	W	90	90	90
	Rated current	A	0.4	0.4	0.4
Indoor fan motor	Model		YDK60-6F	YDK60-6F	YDK60-6F
	Type		AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling
	Input	W	98/85/75/70	98/85/75/70	98/85/75/70
	Capacitor	uF	3	3	3
	Speed (hi/mid/lo)	r/min	550/480/410	550/480/410	550/480/410
Indoor coil	Number of rows		1	1	2
	Tube pitch(a)x row pitch(b)	mm	21	21	21x13.37
	Fin spacing	mm	1.45	1.45	1.45
	Fin type		Hydrophilic Aluminium	Hydrophilic Aluminium	Hydrophilic Aluminium
	Tube outside dia. and type	mm	Φ7 Innergroove Tube	Φ7 Innergroove Tube	Φ7 Innergroove Tube
	Coil length x height x width	mm	1959.4x168x13.37	1959.4x168x13.37	1959.4x168x26.74
	Number of circuits		4	4	8
Indoor air flow (H/M/L)		m^3/h	950/800/650	950/800/650	950/800/650
Indoor noise level (Hi/Mid/Lo)		dB(A)	42/38/35	42/38/35	42/38/35
Indoor unit	Dimension (WxHxD)	mm	840x230x840	840x230x840	840x230x840
	Packing (WxHxD)	mm	955X247X955	955X247X955	955X247X955
	Net/Gross weight	kg	27/31	27/31	30/34
Panel	Dimension (WxHxD)	mm	950x46x950	950x46x950	950x46x950
	Packing (WxHxD)	mm	1035x90x1035	1035x90x1035	1035x90x1035
	Net/Gross weight	kg	6/9	6/9	6/9
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Connecting wiring	Power wiring	$Nb\times mm^2$	3×2.5(L≤20m)；3×3.5(L≤50m)		
	Signal wiring	$Nb\times mm^2$	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ32	Φ32	Φ32
Controller			Wireless remote controller (R05/BGE) (Standard)		
Operation temp		℃	17～30		
Application area		m^2	9～28	12～36	15～45

Notes:

1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model			MDV-D56Q4/N1-C	MDV-D71Q4/N1-C	MDV-D80Q4/N1-C
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	5.5	7.1	8.0
	Input	W	90	115	115
	Rated current	A	0.4	0.5	0.5
Heating	Capacity	kW	6.3	8.0	9.0
	Input	W	90	115	115
	Rated current	A	0.4	0.5	0.5
Indoor fan motor	Model		YDK60-6F	YDK80-6E	YDK80-6E
	Type		AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling
	Input	W	98/85/75/70	120/110/100/90	120/110/100/90
	Capacitor	uF	3	3.5	3.5
	Speed (hi/mid/lo)	r/min	550/480/410	670/550/400	670/550/400
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	21x13.37	21x13.37	21x13.37
	Fin spacing	mm	1.45	1.45	1.45
	Fin type		Hydrophilic Aluminium	Hydrophilic Aluminium	Hydrophilic Aluminium
	Tube outside dia. and type	mm	Φ7 Innergroove Tube	Φ7 Innergroove Tube	Φ7 Innergroove Tube
	Coil length x height x width	mm	1959.4x168x26.74	1959.4x168x26.74	1959.4x168x26.74
	Number of circuits		8	8	8
Indoor air flow (H/M/L)		m^3/h	950/800/650	1220/1010/820	1220/1010/820
Indoor noise level (Hi/Mid/Lo)		dB(A)	42/38/35	48/45/42	48/45/42
Indoor unit	Dimension (WxHxD)	mm	840x230x840	840x230x840	840x230x840
	Packing (WxHxD)	mm	955X247X955	955X247X955	955X247X955
	Net/Gross weight	kg	30/34	30/34	30/34
Panel	Dimension (WxHxD)	mm	950x46x950	950x46x950	950x46x950
	Packing (WxHxD)	mm	1035x90x1035	1035x90x1035	1035x90x1035
	Net/Gross weight	kg	6/9	6/9	6/9
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9	Φ9.53/Φ15.9
Connecting wiring	Power wiring	$Nb\times mm^2$	3×2.5(L≤20m)；3×3.5(L≤50m)		
	Signal wiring	$Nb\times mm^2$	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ32	Φ32	Φ32
Controller			Wireless remote controller (R05/BGE) (Standard)		
Operation temp		℃	17～30		
Application area		m^2	15～56	24～71	25～80

Notes:

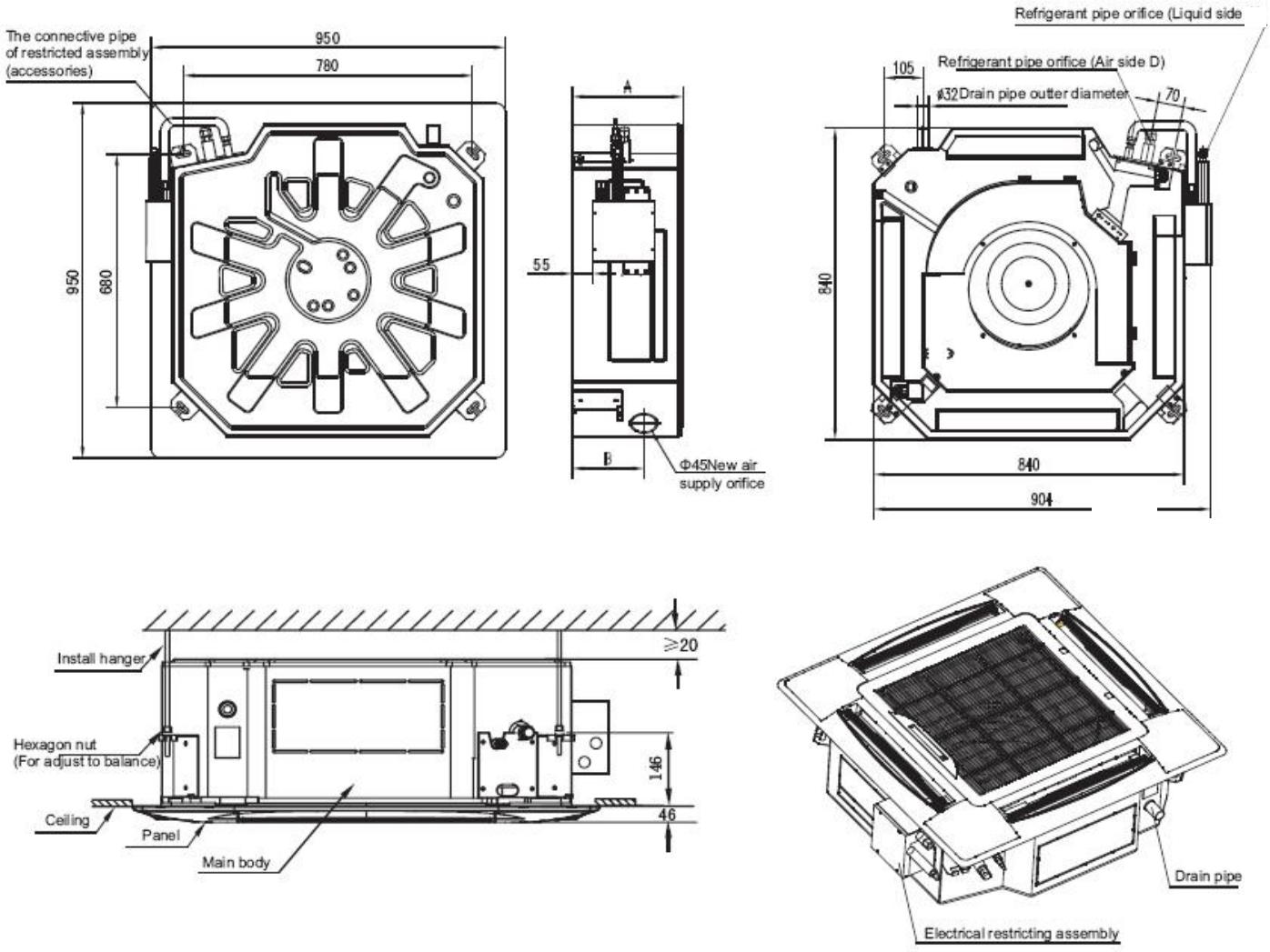
1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model			MDV-D90Q4/N1-C	MDV-D100Q4/N1-C	MDV-D112Q4/N1-C
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	9.0	10.0	11.2
	Input	W	160	160	160
	Rated current	A	0.7	0.7	0.7
Heating	Capacity	kW	10.0	11.0	12.5
	Input	W	160	160	160
	Rated current	A	0.7	0.7	0.7
Indoor fan motor	Model		YDK90-6E	YDK90-6E	YDK90-6E
	Type		AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling
	Input	W	165/143/114/93	165/143/114/93	165/143/114/93
	Capacitor	uF	3.5	3.5	3.5
	Speed (hi/mid/lo)	r/min	770/640/550	770/640/550	770/640/550
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	21x13.37	21x13.37	21x13.37
	Fin spacing	mm	1.45	1.45	1.45
	Fin type		Hydrophilic Aluminium	Hydrophilic Aluminium	Hydrophilic Aluminium
	Tube outside dia. and type	mm	Φ7 Innergroove Tube	Φ7 Innergroove Tube	Φ7 Innergroove Tube
	Coil length x height x width	mm	1959.4x252x26.74	1959.4x252x26.74	1959.4x252x26.74
	Number of circuits		8	8	8
Indoor air flow (H/M/L)		m^3/h	1540/1300/1120	1540/1300/1120	1540/1300/1120
Indoor noise level (Hi/Mid/Lo)		dB(A)	53/48/45	53/48/45	53/48/45
Indoor unit	Dimension (WxHxD)	mm	840x300x840	840x300x840	840x300x840
	Packing (WxHxD)	mm	955X317X955	955X317X955	955X317X955
	Net/Gross weight	kg	36/41	36/41	36/41
Panel	Dimension (WxHxD)	mm	950x46x950	950x46x950	950x46x950
	Packing (WxHxD)	mm	1035x90x1035	1035x90x1035	1035x90x1035
	Net/Gross weight	kg	6/9	6/9	6/9
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9	Φ9.53/Φ15.9
Connecting wiring	Power wiring	$Nb \times mm^2$	3×2.5(L≤20m)；3×3.5(L≤50m)		
	Signal wiring	$Nb \times mm^2$	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ32	Φ32	Φ32
Controller			Wireless remote controller (R05/BGE) (Standard)		
Operation temp		℃	17～30		
Application area		m^2	25～90	30～100	35～110

Notes:

1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

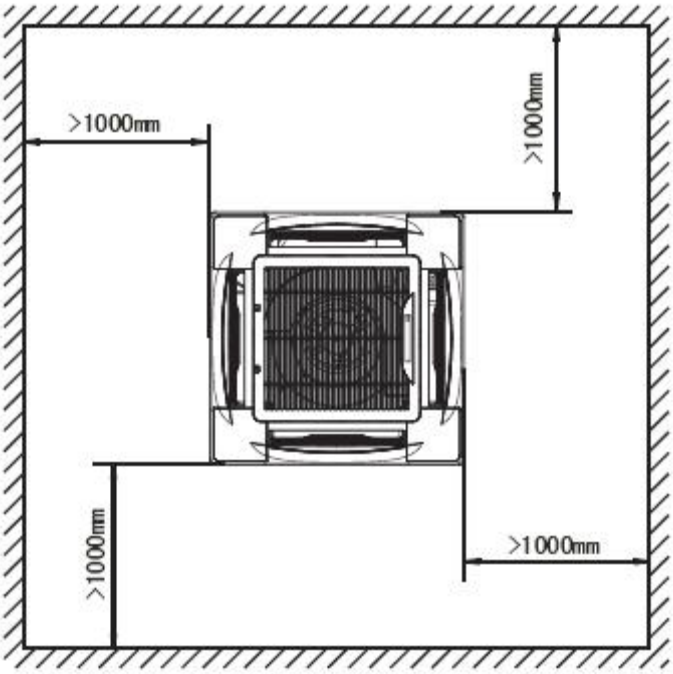
3. Dimensions

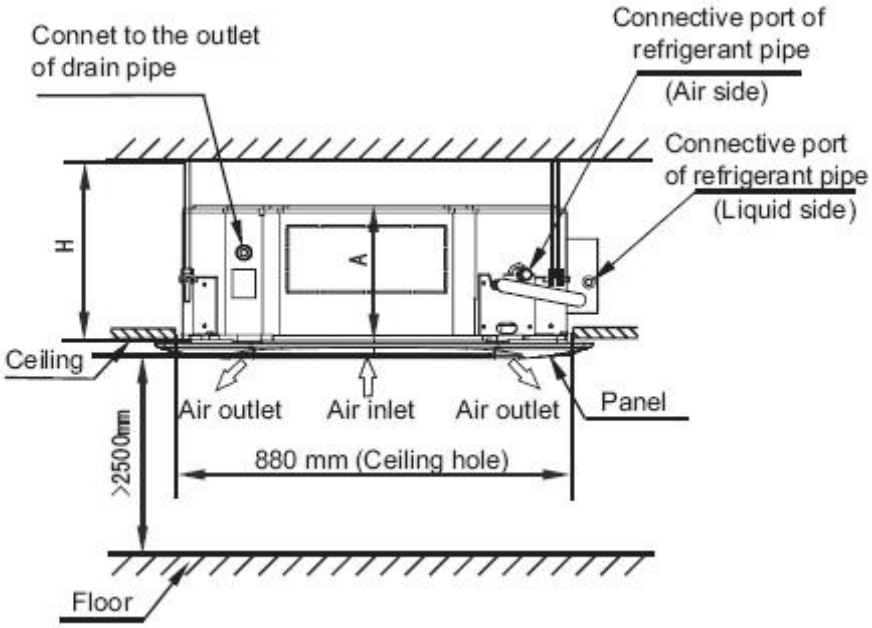


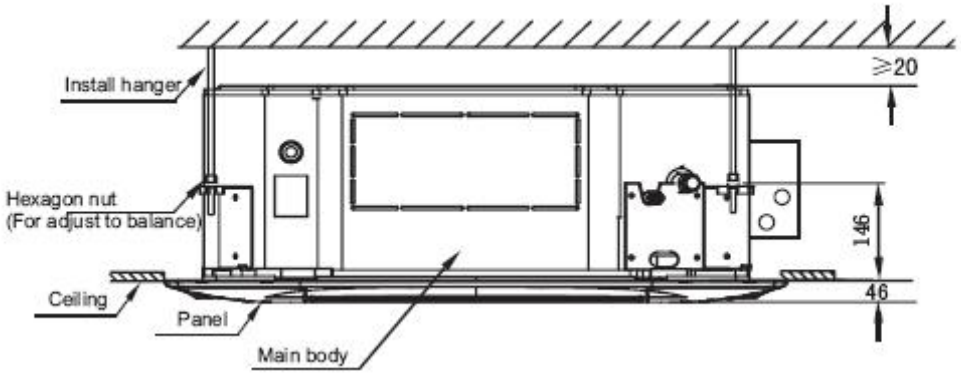
Indoor unit model	A(mm)	B(mm)
MDV-D28Q4/N1-C ～ MDV-D45Q4/N1-C	230	170
MDV-D56Q4/N1-C ～ MDV-D80Q4/N1-C	230	170
MDV-D90Q4/N1-C ～ MDV-D112Q4/N1-C	300	190

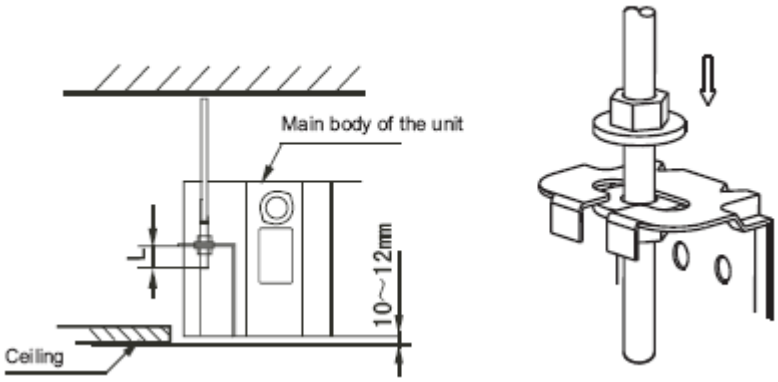
4. Service Space

1) There is enough room for installation and maintenance.
2) The ceiling is horizontal, and its structure can endure the weight of the indoor unit.
3) The outlet and the inlet are not impeded, and the influence of external air is the least.
4) The air flow can reach throughout the room.
5) The connecting pipe and drainpipe could be extracted out easily.
6) There is no direct radiation from heaters.



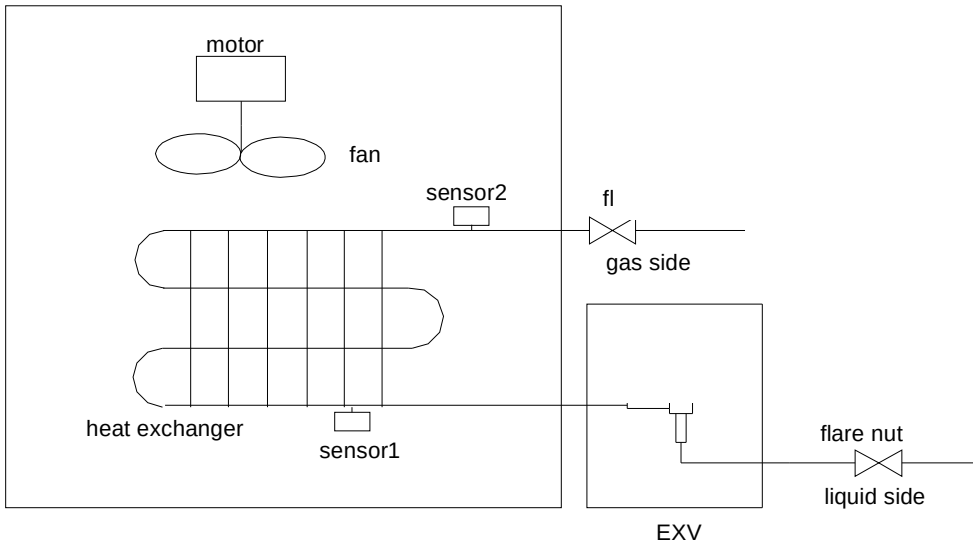






Indoor unit	A(mm)	H(mm)
MDV-D28Q4/N1-C ～ MDV-D80Q4/N1-C	230	≥260
MDV-D90Q4/N1-C ～ MDV-D112Q4/N1-C	230	≥300

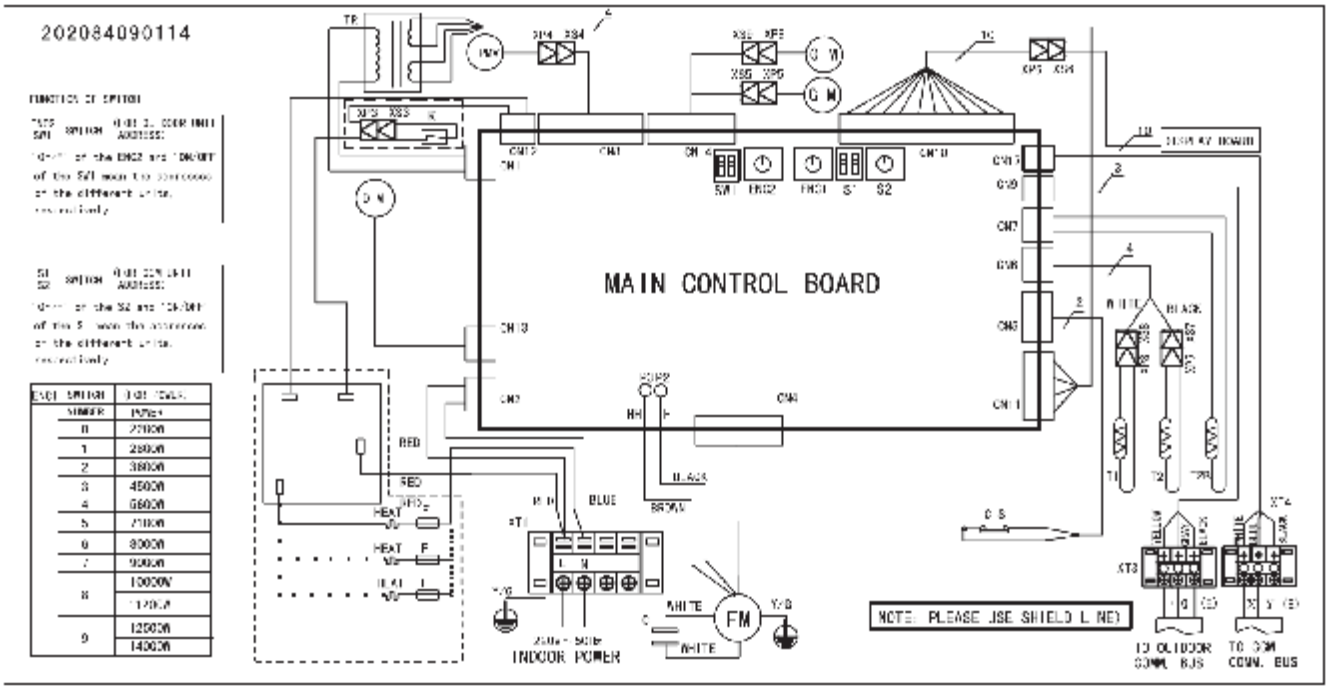
5. Piping Diagram



Sensor1: T2
Sensor2: T2B

6. Wiring Diagram

6.1 MDVD28Q4/N1-C MDVD36Q4/N1-C MDVD45Q4/N1-C MDVD56Q4/N1-C MDVD71Q4/N1-C MDVD80Q4/N1-C MDVD90Q4/N1-C MDVD100Q4/N1-C MDVD112Q4/N1-C



7. Capacity Tables

7.1 Cooling

TC: total capacity **SH**: sensible capacity

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2.2	10.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.9	1.7
	12.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	14.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	16.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	18.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	20.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	21.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	23.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.7	1.5
	25.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	27.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	29.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	31.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	33.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.4	1.5
	35.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.4	1.5
	37.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.3	1.5
	39.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.2	1.6	2.3	1.5	2.3	1.5
2.8	10.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.7	2.1
	12.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	14.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	16.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.0
	18.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.5	2.0
	20.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	21.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	23.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.1	3.4	1.9
	25.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	27.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	29.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	31.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	33.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.1	2.0
	35.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	3.1	2.0
	37.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	2.9	1.9
	39.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.8	2.0	2.9	1.9	2.9	1.9
3.6	10.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.8	2.8
	12.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	14.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	16.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	18.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	20.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	21.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	23.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	25.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	27.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	29.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.5
	31.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.4
	33.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.0	2.4
	35.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	4.0	2.4
	37.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	3.9	2.3
	39.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.7	3.9	2.4
4.5	10.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	12.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	14.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.8	3.3
	16.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	18.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	20.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.5	3.2
	21.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.4	3.1
	23.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.4	3.1
	25.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.3	3.0
	27.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.3	3.0
	29.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.1	2.9
	31.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	5.1	3.0
	33.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.9	2.9
	35.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.8	2.8
	37.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9
	39.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9
5.6	10.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	12.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	14.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.2	4.1
	16.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	18.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	20.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	21.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.0	4.1
	23.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	25.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.5	4.1	6.8	3.9
	27.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.4	4.0	6.5	3.8
	29.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.3	4.0	6.4	3.7
	31.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.2	3.9	6.3	3.7
	33.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.0	3.8	6.3	3.7
	35.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.7	6.2	3.6
	37.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.9	6.1	3.5
	39.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	5.7	3.8	5.8	3.8	6.0	3.5
7.1	10.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.2	4.9

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	12.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.1	4.8
	14.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.0	4.8
	16.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.9	4.7
	18.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.7	4.7
	20.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.5	4.6
	21.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.4	4.5
	23.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.3	4.5
	25.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.2	4.4
	27.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.1	4.9	8.2	4.4
	29.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.0	4.8	8.1	4.5
	31.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.9	4.7	7.8	4.4
	33.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.8	4.7	7.8	4.4
	35.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.6	4.6	7.7	4.3
	37.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.5	4.5	7.6	4.3
	39.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.2	4.6	7.4	4.4	7.6	4.3
8.0	10.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.4	5.6
	12.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.2	5.5
	14.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.2	5.5
	16.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.0	5.4
	18.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.8	5.3
	20.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.6	5.2
	21.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.4	5.1
	23.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.4	5.1
	25.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.3	5.0
	27.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.1	5.3	9.2	5.1
	29.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	9.0	5.3	9.1	5.0
	31.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.9	5.2	8.8	4.8
	33.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.8	5.2	8.8	4.8
	35.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.6	5.1	8.6	4.8
	37.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.3	5.4	8.4	5.0	8.6	4.9
	39.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.1	5.3	8.3	5.0	8.6	4.9
9.0	10.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	11.7	6.6
	12.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	11.5	6.5
	14.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	11.4	6.4
	16.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	11.3	6.3
	18.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	11.0	6.3
	20.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	10.8	6.2
	21.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	10.6	6.1
	23.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	10.5	6.0
	25.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.6	6.6	10.4	6.0
	27.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.3	6.4	10.4	5.9
	29.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.1	6.2	10.3	5.8

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
10.0	31.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	10.0	6.2	9.9	5.7
	33.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.6	6.5	9.9	6.1	9.9	5.7
	35.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.5	6.5	9.6	6.0	9.7	5.7
	37.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.3	6.3	9.5	5.9	9.6	5.8
	39.0	6.2	5.3	7.3	5.8	8.4	6.3	9.0	6.4	9.2	6.2	9.4	5.8	9.6	5.8
	10.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.9	7.3	13.0	7.3
	12.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.9	7.3	12.8	7.2
	14.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.9	7.3	12.7	7.1
	16.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.9	7.3	12.5	7.0
	18.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.9	7.3	12.2	6.8
	20.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.9	7.3	12.0	6.7
	21.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.9	7.3	11.8	6.6
	23.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.7	7.3	11.7	6.6
	25.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.6	7.2	11.6	6.5
	27.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.5	7.1	11.5	6.6
	29.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.4	7.1	11.4	6.5
	31.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.3	7.0	11.0	6.3
	33.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.6	7.0	11.2	6.9	11.0	6.3
	35.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.5	6.9	10.8	6.7	10.8	6.3
	37.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.4	6.9	10.8	6.7	10.7	6.2
	39.0	6.9	5.6	8.1	6.2	9.4	6.9	10.0	7.0	10.2	6.7	10.4	6.6	10.7	6.3
11.2	10.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	15.5	9.0
	12.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	14.4	8.4
	14.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	14.2	8.2
	16.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	14.1	8.2
	18.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	14.0	8.1
	20.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	13.9	8.1
	21.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.3	8.3	13.8	8.0
	23.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.1	8.1	13.7	7.9
	25.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	13.0	8.1	13.6	7.9
	27.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	12.9	8.0	13.4	7.8
	29.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	12.8	7.9	13.3	7.9
	31.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	12.7	7.8	12.8	7.5
	33.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.9	8.1	12.5	7.8	12.5	7.4
	35.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.8	8.0	12.4	7.7	12.3	7.3
	37.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.6	7.9	12.3	7.6	12.1	7.1
	39.0	7.7	6.4	9.1	7.1	10.5	7.7	11.2	7.8	11.4	7.8	12.2	7.6	11.9	7.1

7.2 Heating

TH: total capacity

Indoor Unit size (kW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
2.80	-15.00	-14.70	2.02	2.02	2.02	2.02	2.02	2.02
	-13.00	-12.60	2.14	2.14	2.14	2.14	2.14	2.14
	-11.00	-10.50	2.24	2.24	2.24	2.24	2.24	2.24
	-10.00	-9.50	2.34	2.34	2.34	2.34	2.34	2.34
	-9.10	-8.50	2.40	2.40	2.40	2.40	2.40	2.40
	-7.60	-7.00	2.43	2.43	2.43	2.43	2.43	2.43
	-5.60	-5.00	2.53	2.53	2.53	2.53	2.53	2.53
	-3.70	-3.00	2.66	2.66	2.66	2.66	2.66	2.66
	-0.70	0.00	2.85	2.85	2.85	2.85	2.85	2.69
	2.20	3.00	3.01	3.01	3.01	3.01	2.94	2.69
	4.10	5.00	3.10	3.10	3.10	3.10	2.94	2.69
	6.00	7.00	3.20	3.20	3.20	3.10	2.94	2.69
	7.90	9.00	3.30	3.30	3.20	3.10	2.94	2.69
	9.80	11.00	3.39	3.39	3.20	3.10	2.94	2.69
	11.80	13.00	3.52	3.46	3.20	3.10	2.94	2.69
	13.70	15.00	3.62	3.46	3.20	3.10	2.94	2.69
3.60	-15.00	-14.70	2.52	2.52	2.52	2.52	2.52	2.52
	-13.00	-12.60	2.68	2.68	2.68	2.68	2.68	2.68
	-11.00	-10.50	2.80	2.80	2.80	2.80	2.80	2.80
	-10.00	-9.50	2.92	2.92	2.92	2.92	2.92	2.92
	-9.10	-8.50	3.00	3.00	3.00	3.00	3.00	3.00
	-7.60	-7.00	3.04	3.04	3.04	3.04	3.04	3.04
	-5.60	-5.00	3.16	3.16	3.16	3.16	3.16	3.16
	-3.70	-3.00	3.32	3.32	3.32	3.32	3.32	3.32
	-0.70	0.00	3.56	3.56	3.56	3.56	3.56	3.36
	2.20	3.00	3.76	3.76	3.76	3.76	3.68	3.36
	4.10	5.00	3.88	3.88	3.88	3.88	3.68	3.36
	6.00	7.00	4.00	4.00	4.00	3.88	3.68	3.36
	7.90	9.00	4.12	4.12	4.00	3.88	3.68	3.36
	9.80	11.00	4.24	4.24	4.00	3.88	3.68	3.36
	11.80	13.00	4.40	4.32	4.00	3.88	3.68	3.36
	13.70	15.00	4.52	4.32	4.00	3.88	3.68	3.36
4.50	-15.00	-14.70	3.15	3.15	3.15	3.15	3.15	3.15
	-13.00	-12.60	3.35	3.35	3.35	3.35	3.35	3.35
	-11.00	-10.50	3.50	3.50	3.50	3.50	3.50	3.50
	-10.00	-9.50	3.65	3.65	3.65	3.65	3.65	3.65
	-9.10	-8.50	3.75	3.75	3.75	3.75	3.75	3.75
	-7.60	-7.00	3.80	3.80	3.80	3.80	3.80	3.80
	-5.60	-5.00	3.95	3.95	3.95	3.95	3.95	3.95
	-3.70	-3.00	4.15	4.15	4.15	4.15	4.15	4.15

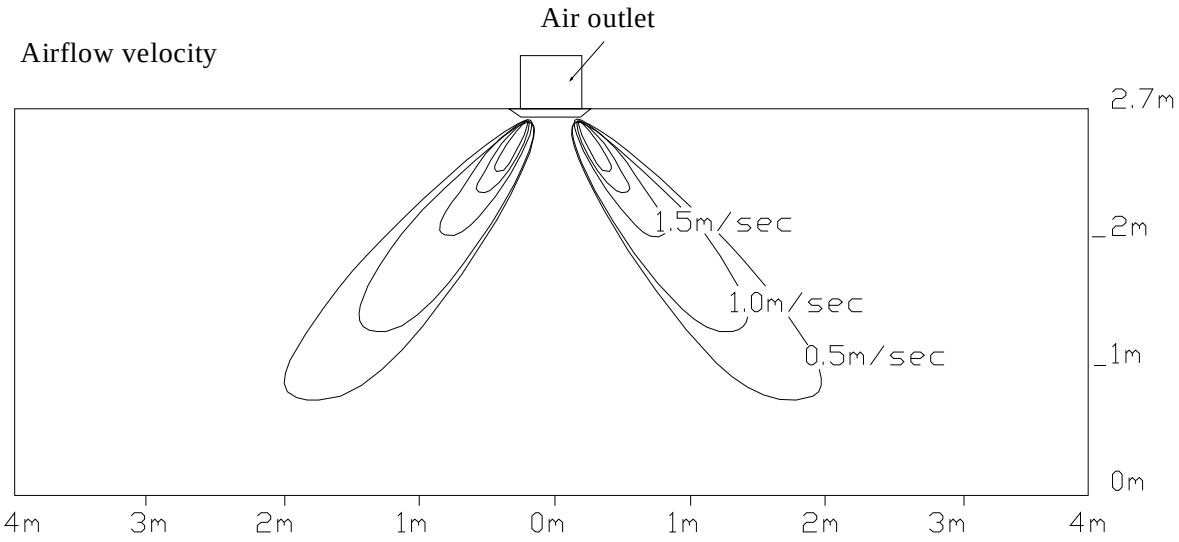
Indoor Unit size (kW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
	-0.70	0.00	4.45	4.45	4.45	4.45	4.45	4.20
	2.20	3.00	4.70	4.70	4.70	4.70	4.60	4.20
	4.10	5.00	4.85	4.85	4.85	4.85	4.60	4.20
	6.00	7.00	5.00	5.00	5.00	4.85	4.60	4.20
	7.90	9.00	5.15	5.15	5.00	4.85	4.60	4.20
	9.80	11.00	5.30	5.30	5.00	4.85	4.60	4.20
	11.80	13.00	5.50	5.40	5.00	4.85	4.60	4.20
	13.70	15.00	5.65	5.40	5.00	4.85	4.60	4.20
5.60	-15.00	-14.70	3.97	3.97	3.97	3.97	3.97	3.97
	-13.00	-12.60	4.22	4.22	4.22	4.22	4.22	4.22
	-11.00	-10.50	4.41	4.41	4.41	4.41	4.41	4.41
	-10.00	-9.50	4.60	4.60	4.60	4.60	4.60	4.60
	-9.10	-8.50	4.73	4.73	4.73	4.73	4.73	4.73
	-7.60	-7.00	4.79	4.79	4.79	4.79	4.79	4.79
	-5.60	-5.00	4.98	4.98	4.98	4.98	4.98	4.98
	-3.70	-3.00	5.23	5.23	5.23	5.23	5.23	5.23
	-0.70	0.00	5.61	5.61	5.61	5.61	5.61	5.29
	2.20	3.00	5.92	5.92	5.92	5.92	5.80	5.29
	4.10	5.00	6.11	6.11	6.11	6.11	5.80	5.29
	6.00	7.00	6.30	6.30	6.30	6.11	5.80	5.29
	7.90	9.00	6.49	6.49	6.30	6.11	5.80	5.29
	9.80	11.00	6.68	6.68	6.30	6.11	5.80	5.29
	11.80	13.00	6.93	6.80	6.30	6.11	5.80	5.29
	13.70	15.00	7.12	6.80	6.30	6.11	5.80	5.29
7.10	-15.00	-14.70	5.04	5.04	5.04	5.04	5.04	5.04
	-13.00	-12.60	5.36	5.36	5.36	5.36	5.36	5.36
	-11.00	-10.50	5.60	5.60	5.60	5.60	5.60	5.60
	-10.00	-9.50	5.84	5.84	5.84	5.84	5.84	5.84
	-9.10	-8.50	6.00	6.00	6.00	6.00	6.00	6.00
	-7.60	-7.00	6.08	6.08	6.08	6.08	6.08	6.08
	-5.60	-5.00	6.32	6.32	6.32	6.32	6.32	6.32
	-3.70	-3.00	6.64	6.64	6.64	6.64	6.64	6.64
	-0.70	0.00	7.12	7.12	7.12	7.12	7.12	6.72
	2.20	3.00	7.52	7.52	7.52	7.52	7.36	6.72
	4.10	5.00	7.76	7.76	7.76	7.76	7.36	6.72
	6.00	7.00	8.00	8.00	8.00	7.76	7.36	6.72
	7.90	9.00	8.24	8.24	8.00	7.76	7.36	6.72
	9.80	11.00	8.48	8.48	8.00	7.76	7.36	6.72
	11.80	13.00	8.80	8.64	8.00	7.76	7.36	6.72
	13.70	15.00	9.04	8.64	8.00	7.76	7.36	6.72
8.00	-15.00	-14.70	5.67	5.67	5.67	5.67	5.67	5.67
	-13.00	-12.60	6.03	6.03	6.03	6.03	6.03	6.03

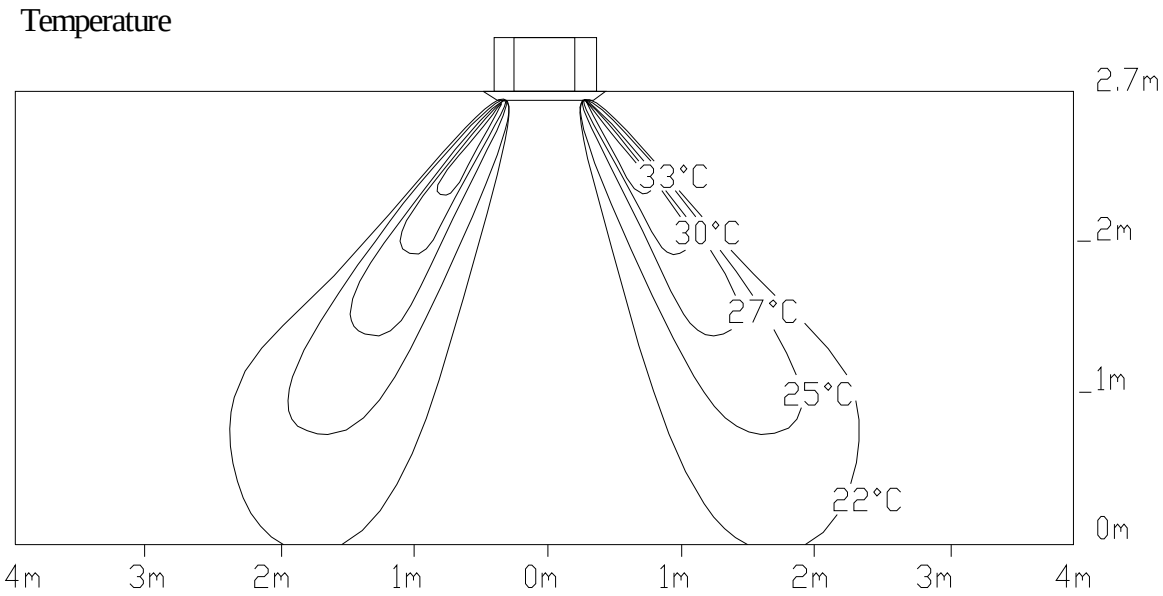
Indoor Unit size (kW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
	-11.00	-10.50	6.30	6.30	6.30	6.30	6.30	6.30
	-10.00	-9.50	6.57	6.57	6.57	6.57	6.57	6.57
	-9.10	-8.50	6.75	6.75	6.75	6.75	6.75	6.75
	-7.60	-7.00	6.84	6.84	6.84	6.84	6.84	6.84
	-5.60	-5.00	7.11	7.11	7.11	7.11	7.11	7.11
	-3.70	-3.00	7.47	7.47	7.47	7.47	7.47	7.47
	-0.70	0.00	8.01	8.01	8.01	8.01	8.01	7.56
	2.20	3.00	8.46	8.46	8.46	8.46	8.28	7.56
	4.10	5.00	8.73	8.73	8.73	8.73	8.28	7.56
	6.00	7.00	9.00	9.00	9.00	8.73	8.28	7.56
	7.90	9.00	9.27	9.27	9.00	8.73	8.28	7.56
	9.80	11.00	9.54	9.54	9.00	8.73	8.28	7.56
	11.80	13.00	9.90	9.72	9.00	8.73	8.28	7.56
	13.70	15.00	10.17	9.72	9.00	8.73	8.28	7.56
9.00	-15.00	-14.70	6.30	6.30	6.30	6.30	6.30	6.30
	-13.00	-12.60	6.70	6.70	6.70	6.70	6.70	6.70
	-11.00	-10.50	7.00	7.00	7.00	7.00	7.00	7.00
	-10.00	-9.50	7.30	7.30	7.30	7.30	7.30	7.30
	-9.10	-8.50	7.50	7.50	7.50	7.50	7.50	7.50
	-7.60	-7.00	7.60	7.60	7.60	7.60	7.60	7.60
	-5.60	-5.00	7.90	7.90	7.90	7.90	7.90	7.90
	-3.70	-3.00	8.30	8.30	8.30	8.30	8.30	8.30
	-0.70	0.00	8.90	8.90	8.90	8.90	8.90	8.40
	2.20	3.00	9.40	9.40	9.40	9.40	9.20	8.40
	4.10	5.00	9.70	9.70	9.70	9.70	9.20	8.40
	6.00	7.00	10.00	10.00	10.00	9.70	9.20	8.40
	7.90	9.00	10.30	10.30	10.00	9.70	9.20	8.40
	9.80	11.00	10.60	10.60	10.00	9.70	9.20	8.40
	11.80	13.00	11.00	10.80	10.00	9.70	9.20	8.40
	13.70	15.00	11.30	10.80	10.00	9.70	9.20	8.40
10.00	-15.00	-14.70	6.93	6.93	6.93	6.93	6.93	6.93
	-13.00	-12.60	7.37	7.37	7.37	7.37	7.37	7.37
	-11.00	-10.50	7.70	7.70	7.70	7.70	7.70	7.70
	-10.00	-9.50	8.03	8.03	8.03	8.03	8.03	8.03
	-9.10	-8.50	8.25	8.25	8.25	8.25	8.25	8.25
	-7.60	-7.00	8.36	8.36	8.36	8.36	8.36	8.36
	-5.60	-5.00	8.69	8.69	8.69	8.69	8.69	8.69
	-3.70	-3.00	9.13	9.13	9.13	9.13	9.13	9.13
	-0.70	0.00	9.79	9.79	9.79	9.79	9.79	9.24
	2.20	3.00	10.34	10.34	10.34	10.34	10.12	9.24
	4.10	5.00	10.67	10.67	10.67	10.67	10.12	9.24
	6.00	7.00	11.00	11.00	11.00	10.67	10.12	9.24

Indoor Unit size (kW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
	7.90	9.00	11.33	11.33	11.00	10.67	10.12	9.24
	9.80	11.00	11.66	11.66	11.00	10.67	10.12	9.24
	11.80	13.00	12.10	11.88	11.00	10.67	10.12	9.24
	13.70	15.00	12.43	11.88	11.00	10.67	10.12	9.24
11.20	-15.00	-14.70	7.88	7.88	7.88	7.88	7.88	7.88
	-13.00	-12.60	8.38	8.38	8.38	8.38	8.38	8.38
	-11.00	-10.50	8.75	8.75	8.75	8.75	8.75	8.75
	-10.00	-9.50	9.13	9.13	9.13	9.13	9.13	9.13
	-9.10	-8.50	9.38	9.38	9.38	9.38	9.38	9.38
	-7.60	-7.00	9.50	9.50	9.50	9.50	9.50	9.50
	-5.60	-5.00	9.88	9.88	9.88	9.88	9.88	9.88
	-3.70	-3.00	10.38	10.38	10.38	10.38	10.38	10.38
	-0.70	0.00	11.13	11.13	11.13	11.13	11.13	10.50
	2.20	3.00	11.75	11.75	11.75	11.75	11.50	10.50
	4.10	5.00	12.13	12.13	12.13	12.13	11.50	10.50
	6.00	7.00	12.50	12.50	12.50	12.13	11.50	10.50
	7.90	9.00	12.88	12.88	12.50	12.13	11.50	10.50
	9.80	11.00	13.25	13.25	12.50	12.13	11.50	10.50
	11.80	13.00	13.75	13.50	12.50	12.13	11.50	10.50
	13.70	15.00	14.13	13.50	12.50	12.13	11.50	10.50

8. Air Velocity Distribution

Discharge angle 60º





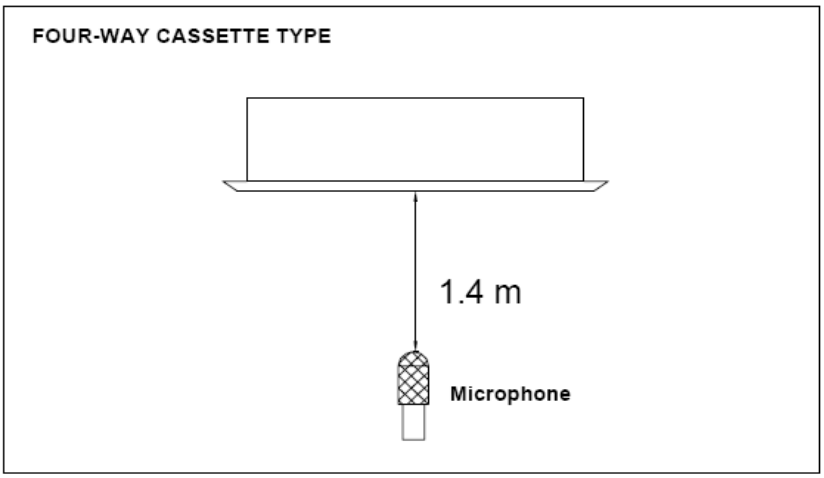
9. Electric Characteristics

Model	Indoor Unit				Power Supply		IFM	
	Hz	Voltage	Min.	Max.	MCA	MFA	kW	FLA
MDV-D28Q4/N1-C	50Hz	220-240V	198V	254V	0.5	15A	0.06	0.38
MDV-D36Q4/N1-C	50Hz	220-240V	198V	254V	0.5	15A	0.06	0.38
MDV-D45Q4/N1-C	50Hz	220-240V	198V	254V	0.5	15A	0.06	0.38
MDV-D56Q4/N1-C	50Hz	220-240V	198V	254V	0.5	15A	0.06	0.38
MDV-D71Q4/N1-C	50Hz	220-240V	198V	254V	0.65	15A	0.080	0.5
MDV-D80Q4/N1-C	50Hz	220-240V	198V	254V	0.65	15A	0.080	0.5
MDV-D90Q4/N1-C	50Hz	220-240V	198V	254V	0.85	15A	0.09	0.67
MDV-D100Q4/N1-C	50Hz	220-240V	198V	254V	0.85	15A	0.09	0.67
MDV-D112Q4/N1-C	50Hz	220-240V	198V	254V	0.85	15A	0.09	0.67

Remark:
MCA: Min. Current Amps. (A)
MFA: Max. Fuse Amps. (A)
kW: Fan Motor Rated Output (kW)
FLA: Full Load Amps. (A)
IFM: Indoor Fan Motor

10. Sound Levels

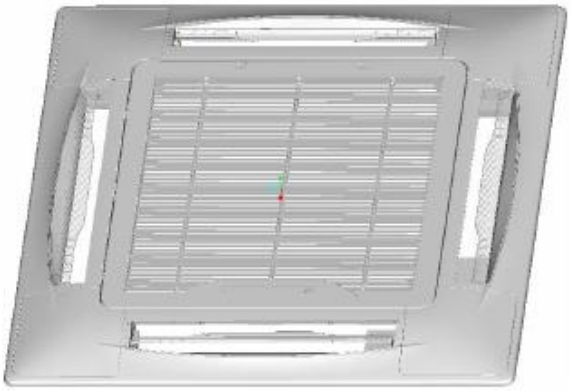
10.1 Test condition

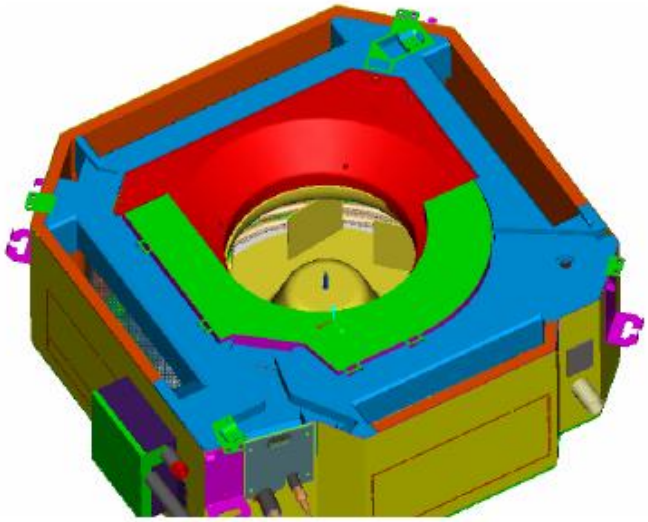


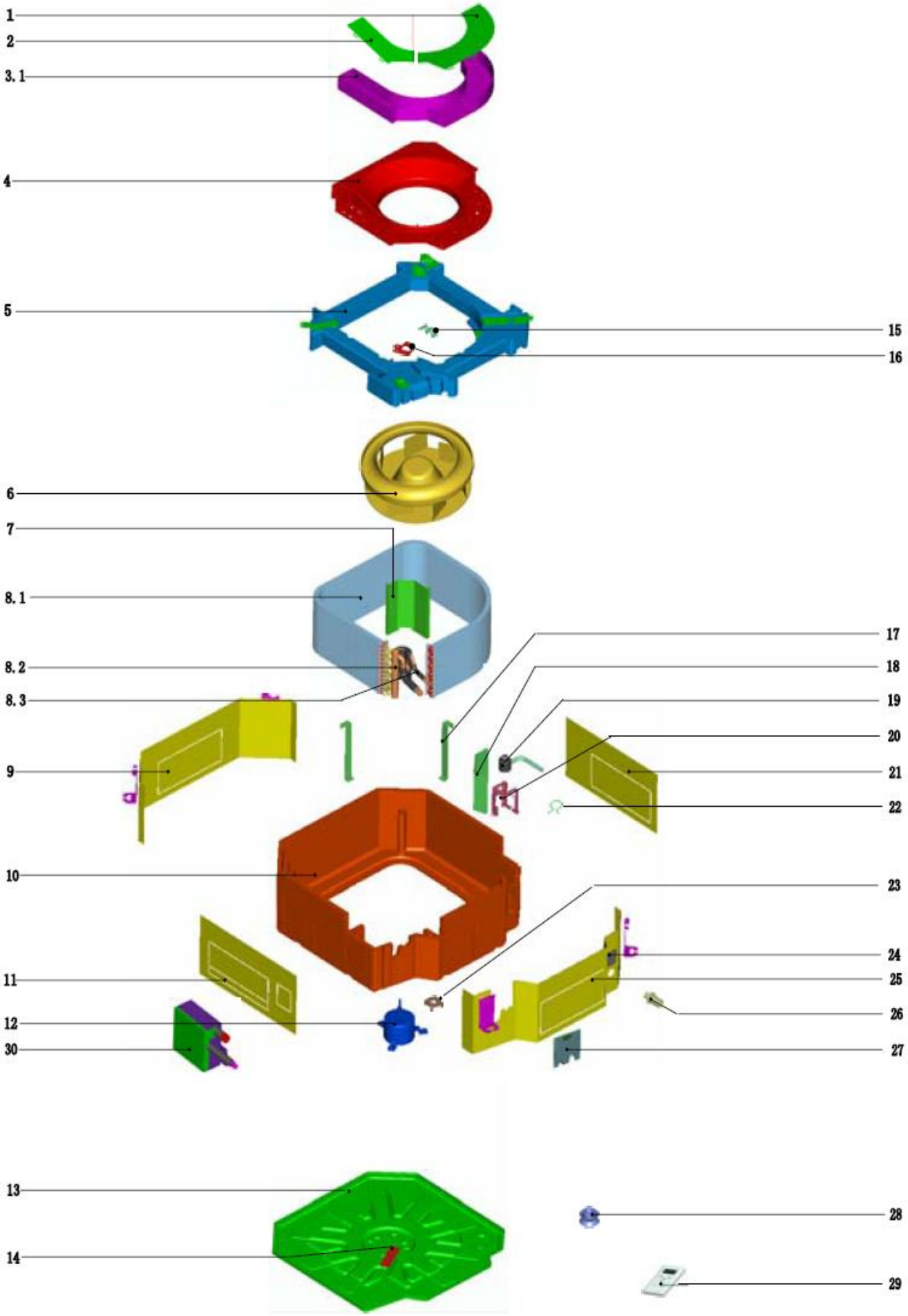
Model	Noise level under three speeds of fan (dB(A))		
	H	M	L
MDV-D28Q4/N1-C	38	37	35
MDV-D36Q4/N1-C	38	37	35
MDV-D45Q4/N1-C	39	38	36
MDV-D56Q4/N1-C	39	38	36
MDV-D71Q4/N1-C	39	38	36
MDV-D80Q4/N1-C	39	38	36
MDV-D90Q4/N1-C	40	38	36
MDV-D100Q4/N1-C	40	38	36
MDV-D112Q4/N1-C	41	39	37

11. Exploded view

11.1 MDV-D28Q4/N1-C MDV-D36Q4/N1-C MDV-D45Q4/N1-C MDV-D56Q4/N1-C MDV-D71Q4/N1-C MDV-D80Q4/N1-C

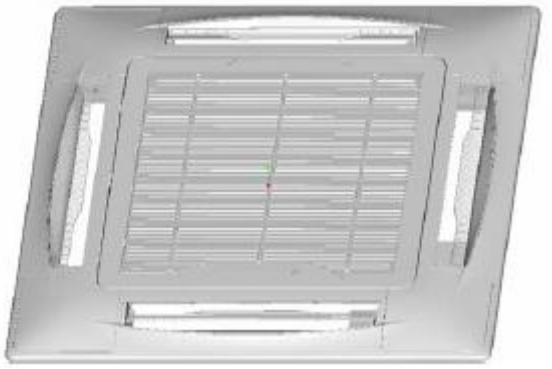


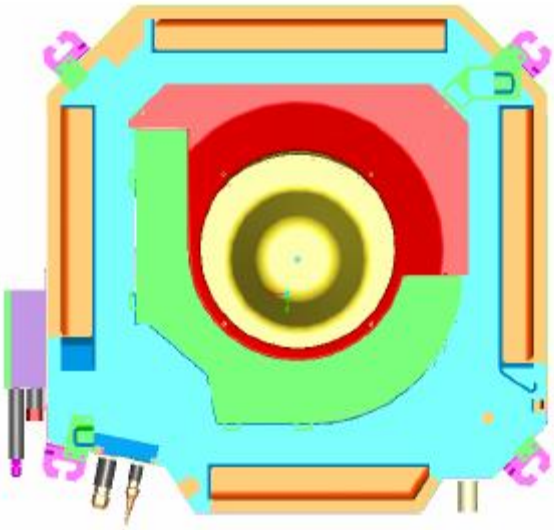


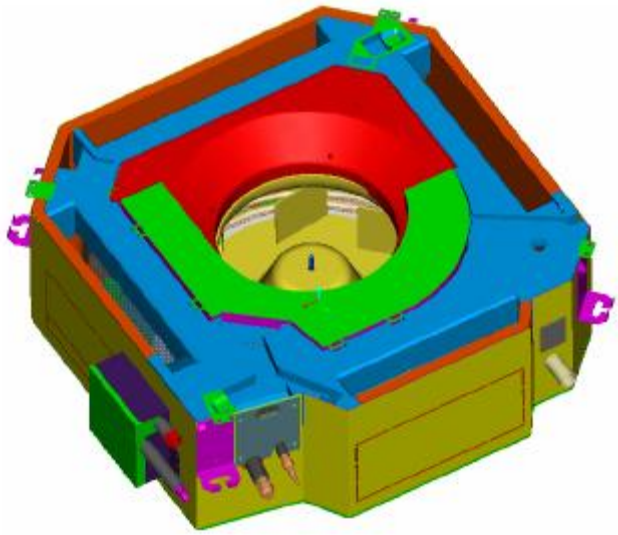

1
2
3. 1
4
5
15
16
6
7
8. 1
17
8. 2
18
8. 3
19
20
9
21
22
10
23
24
11
25
26
12
27
30
13
28
14
29

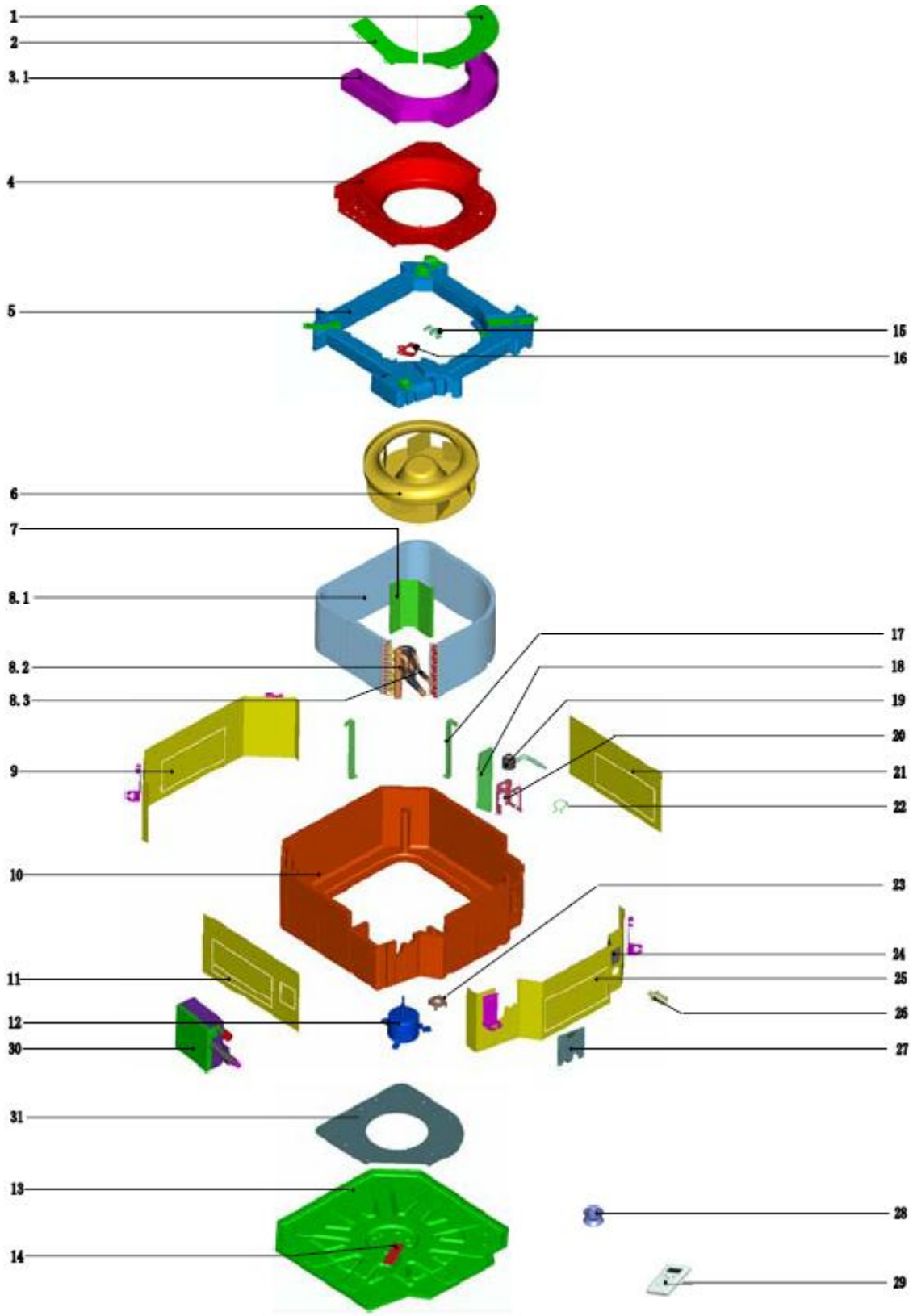
No.	Part name	Quantity	No.	Part name	Quantity
1	Electric control box head cover I	1	14	Plate, wire	1
2	Electric control box head cover II	1	15	Tandem, wire	1
3	Electric control box assembly of indoor unit	1	16	Bipitch wire clip	1
3.1	Electric control box welded assembly	1	17	Evaporator fixing hook	3
3.2	Voltage transformer	1	18	Water pump baffle plate	1
3.3	Indoor temp. sensor subassembly	1	19	Water drain pump subassembly	1
3.4	Capacitor	1	20	Water pump installation bracket subassembly	1
3.5	Four sides air outlet indoor main control plate	1	21	Front barrier IV subassembly	1
4	Air inducting coils subassembly	1	22	Water pump pumping pipe grommet	1
5	Foam subassembly ,drip tray	1	23	Fan fins	1
6	Fan assembly	1	24	Water finder cover subassembly	1
7	Evaporator fixing board	1	25	Front barrier III subassembly	1
8	Evaporator assembly	1	26	Water pumping connect pipe	1
8.1	Evaporator	1	27	Exhalant tube seal plate subassembly	1
8.2	Evaporator output tube assembly	1	28	Water pump's rubber pad	1
8.3	Evaporator filter assembly	1	29	Remote controller	1
8.4	Barrel	1	30	Electrical restriction assembly	1
9	Front barrier I subassembly	1	31	Liquid level sensor assembly	1
10	Foam seat subassembly	1	32	Connective pipe subassembly of electrical restriction assembly	1
11	Front barrier II subassembly	1	33	Pipe temperature sensor subassembly	1
12	Asynchronous dynamo	1	34	Pipe temperature sensor	1
13	Base pan welded assembly	1	35	Front panel	1

11.2 MDV-D90Q4/N1-C MDV-D100Q4/N1-C MDV-D112Q4/N1-C








1
2
3. 1
4
5
15
16
6
7
8. 1
8. 2
8. 3
17
18
19
20
9
21
22
10
23
24
11
25
26
12
30
27
31
13
28
14
29

No.	Part name	Quantity	No.	Part name	Quantity
1	Electric control box head cover I	1	15	Tandem, wire	1
2	Electric control box head cover II	1	16	Bipitch wire clip	1
3	Electric control box assembly of indoor unit	1	17	Evaporator fixing hook	3
3.1	Electric control box welded assembly	1	18	Water pump baffle plate	1
3.2	Voltage transformer	1	19	Water drain pump subassembly	1
3.3	Indoor temp. sensor subassembly	1	20	Water pump installation bracket subassembly	1
3.4	Capacitor	1	21	Front barrier IV subassembly	1
3.5	Four sides air outlet indoor main control plate	1	22	Water pump pumping pipe grommet	1
4	Air inducting coils subassembly	1	23	Fan fins	1
5	Foam subassembly ,drip tray	1	24	Water finder cover subassembly	1
6	Fan assembly	1	25	Front barrier III subassembly	1
7	Evaporator fixing board	1	26	Water pumping connect pipe	1
8	Evaporator assembly	1	27	Exhalant tube seal plate subassembly	1
8.1	Evaporator	1	28	Water pump's rubber pad	1
8.2	Evaporator output tube assembly	1	29	Remote controller	1
8.3	Evaporator filter assembly	1	30	Electrical restriction assembly	1
8.4	Barrel	1	31	Base pan seat	1
9	Front barrier I subassembly	1	32	Liquid level sensor assembly	1
10	Foam seat subassembly	1	33	Connective pipe subassembly of electrical restriction assembly	1
11	Front barrier II subassembly	1	34	Pipe temperature sensor subassembly	1
12	Asynchronous dynamo	1	35	Pipe temperature sensor	1
13	Base pan welded assembly	1	36	Front panel	1
14	Plate, wire	1			

12. Accessories

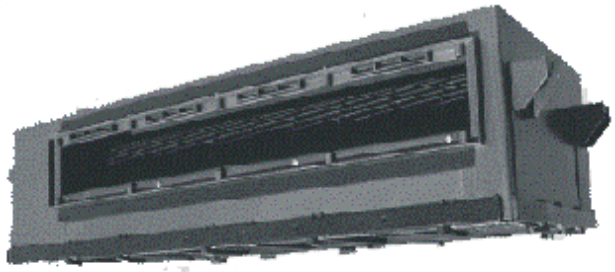
Name	Quantity	Shape	Purpose
Installation manual for indoor unit	1	This manual	Must deliver to customer
Insulation sheath	2		Thermal insulation for the jointing part of piping
Installation paper board	1		For confirming the ceiling site and unit location
Installation gauge	1		For confirming the ceiling site (Integrated on installation paper board)
Installation screw for paper board	4		For installing paper board
Thermal insulated material	1		Thermal insulation for the jointing part of drain pipe
Bushing	8		Hanger assembly
Flexible hose tube	1		For drain pipe
Thermal insulation material	1		For sealing the jointing part of piping
Remote controller	1		For remove controlling the air conditioner
Mounting screw	4		For installing defrosting tray
Drain pipe clasp	1		For installing drain pipe
Connective pipe for restriction assembly	1		/
Tightening band	5		/
Electric throttle (That have been installed at the unit)	1		/

Low Static Pressure Duct Type

1. Features 74
2. Specifications 75
3. Dimensions 76
4. Service Space 77
5. Piping Diagrams 78
6. Wiring Diagrams 79
7. Air Velocity and Temperature Distributions 80
8. Capacity Tables 81
9. Electric Characteristics 84
10. Sound Levels 84
11. Exploded View 85

1. Features

1.1 Low operation noise
1.2 Compact Structure and light weight
1.3 Adopt Cross Fan
1.4 Adopt 4-bend Evaporator with High Efficient

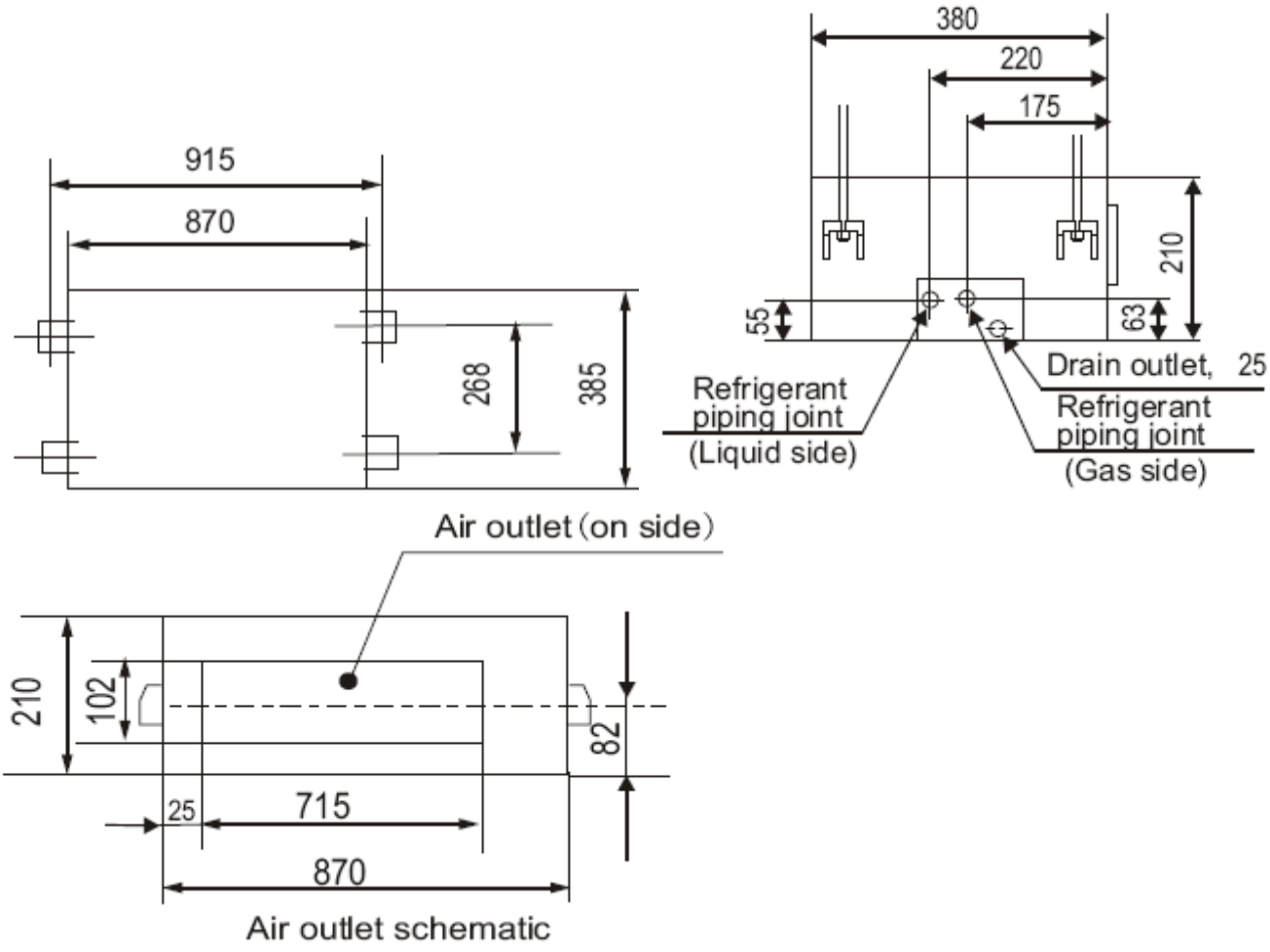


2. Specifications

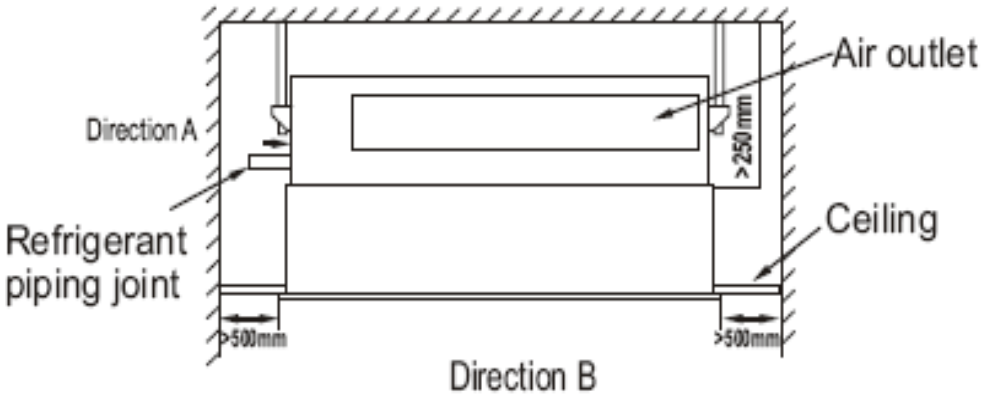
Sale Model			MDV-D22T2/CN1	MDV-D28T2/CN1	MDV-D36T2/CN1
Power supply		V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50
Cooling	Capacity	kW	2.2	2.8	3.6
	Input	W	35	35	35
	Rated current	A	0.2	0.2	0.2
Heating	Capacity	kW	2.6	3.2	4.0
	Input	W	35	35	35
	Rated current	A	0.2	0.2	0.2
Indoor fan motor	Model		RPS20D	RPS20D	RPS20D
	Type		AC MOTOR	AC MOTOR	AC MOTOR
	Brand		Welling	Welling	Welling
	Input	W	34.5/30.5/27.3	34.5/30.5/27.3	34.5/30.5/27.3
	Capacitor	uF	0.8uF/450V	1uF/450V	1uF/450V
	Speed(hi/mi/lo)	r/min	940/840/760	940/840/760	940/840/760
Indoor coil	a.Number of rows		2	2	2
	b.Tube pitch(a)x row pitch(b)	mm	21×13.37	21×13.37	21×13.37
	c.Fin spacing	mm	1.5	1.5	1.5
	d.Fin type (code)		Hydrophilic aluminum		
	e.Tube outside dia.and type	mm	Φ7	Φ7	Φ7
			Inner groove tube		
	f.Coil length x height x width	mm	718 x317x26.74	718 x317x26.74	718 x317x26.74
	g.Number of circuits		2	4	4
Indoor air flow (Hi/Mi/Lo)		m^3/h	570/400/320	570/400/320	570/400/320
Indoor external static pressure (Hi)		Pa	10	10	10
Sound level (sound pressure)		dB(A)	34/32/30	35/33/31	35/33/31
Indoor unit	Dimension (W x H x D)	mm	955x210x385	955x210x385	955x210x385
	Packing (W x H x D)	mm	1114 x277 x469	1114 x277 x469	1114 x277 x469
	Net/Gross weight	kg	15/19	15/19	15/19
Refrigerant	Type		R410A	R410A	R410A
Design pressure		MPa	4.2/2.5	4.2/2.5	4.2/2.5
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Connection wiring	Power wiring	mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring	mm^2	3×1.0		
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller R51(standard)		
Operation temp		℃	17～30		
Application area		m^2	7~22	9~28	12~36

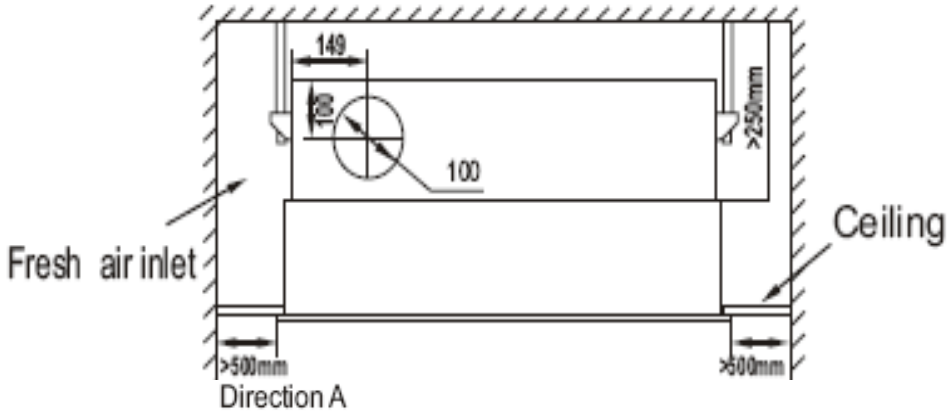
3. Dimensions

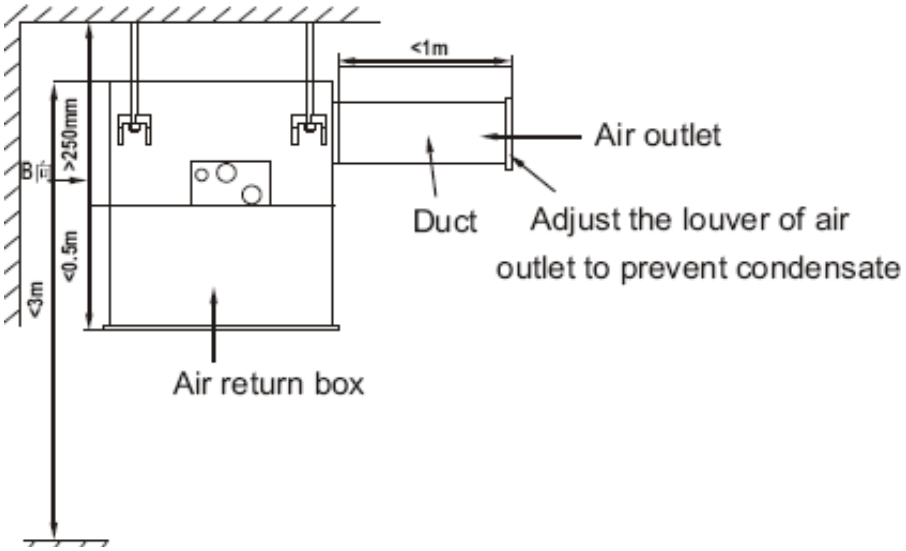
MDV-D22T2/CN1、MDV-D28T2/CN1、MDV-D36T2/CN1



4. Service Space

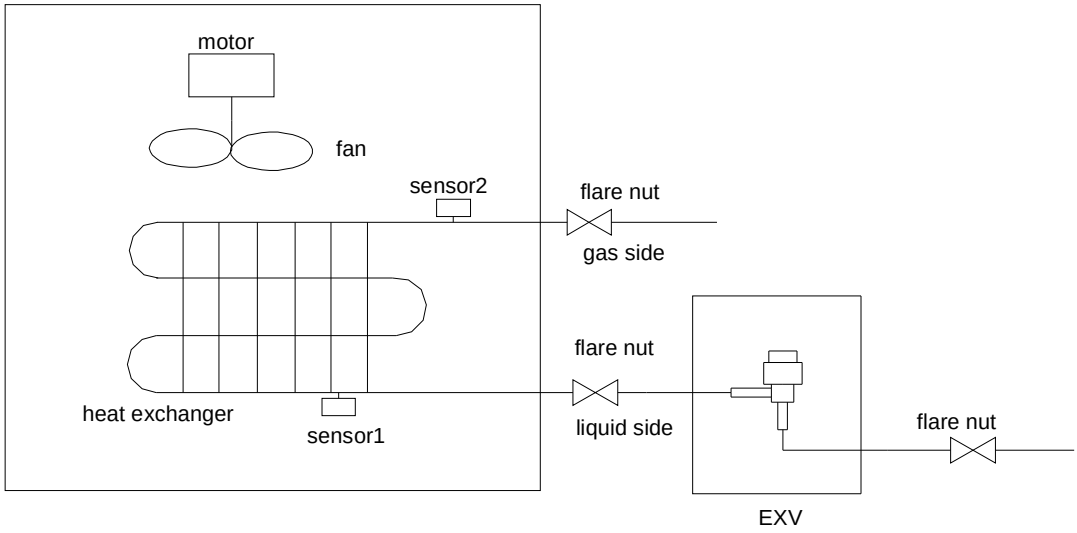






5. Piping Diagrams

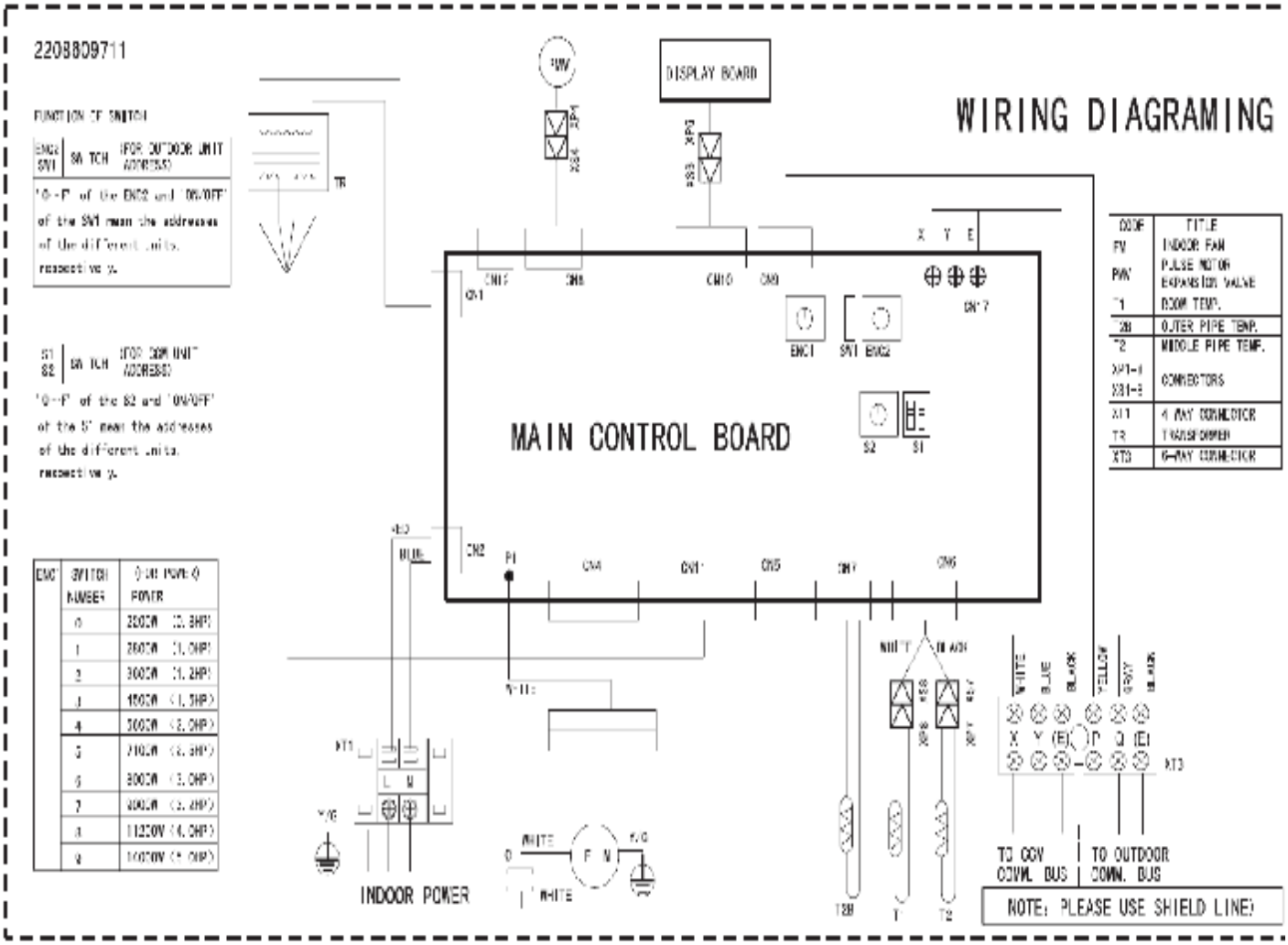
MDV-D22T2/CN1、MDV-D28T2/CN1、MDV-D36T2/CN1



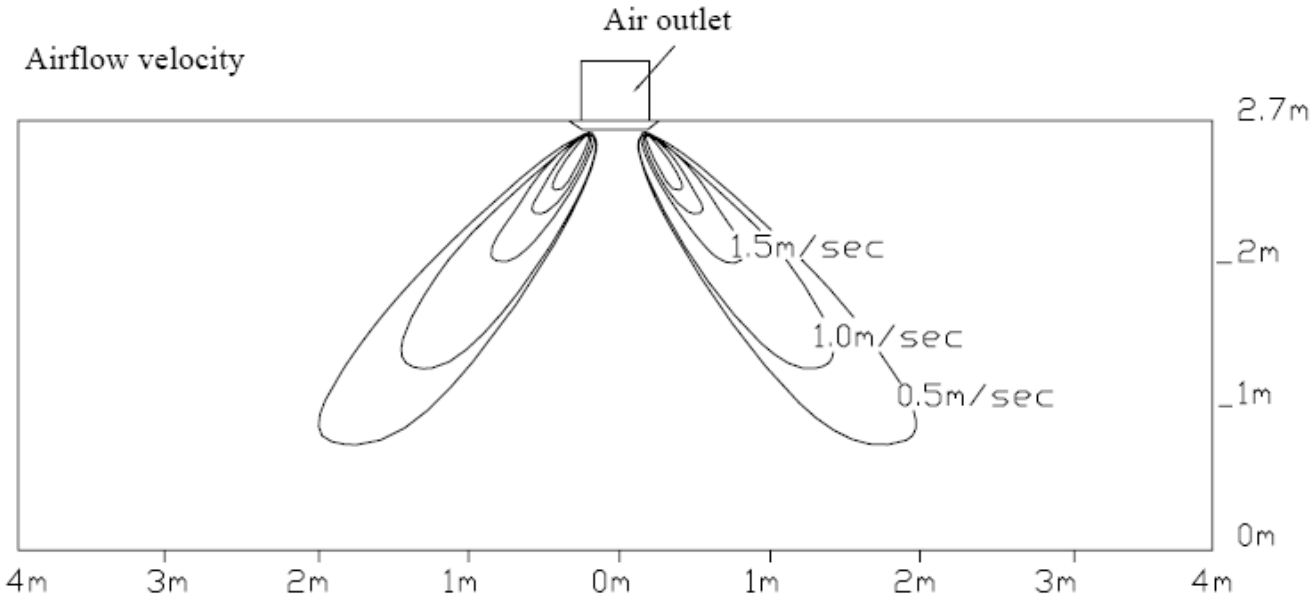
Sensor1: T2
Sensor2: T2B

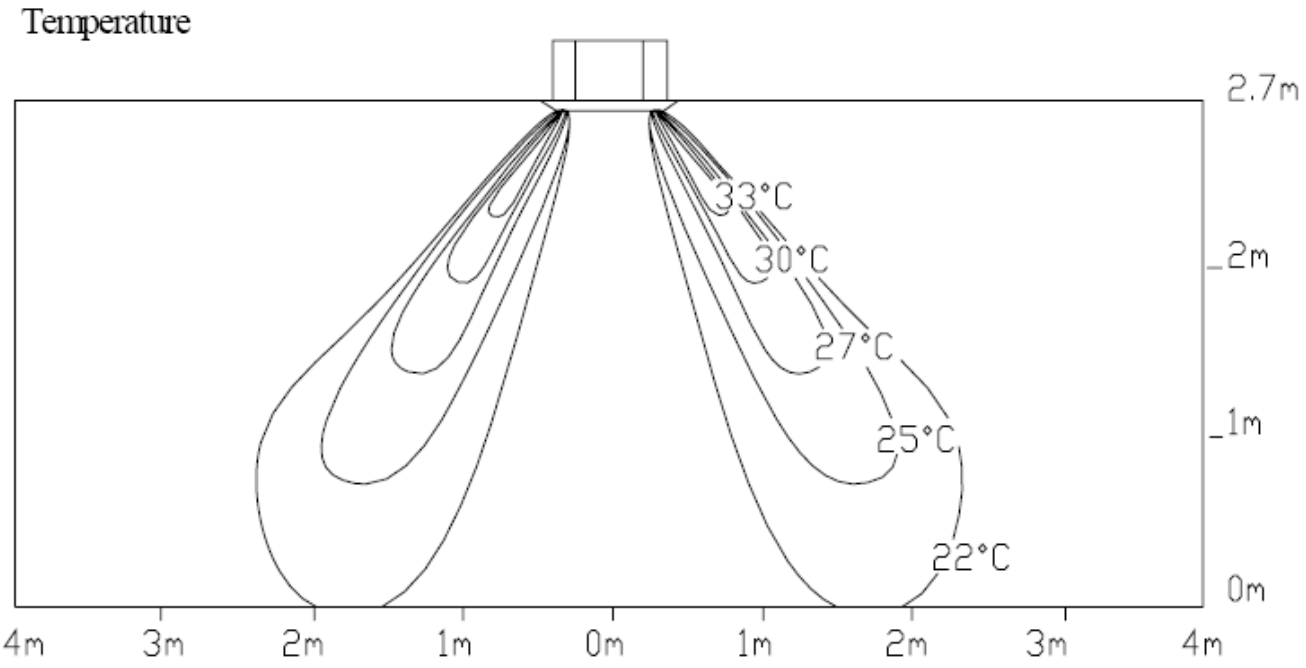
6. Wiring Diagrams

MDV-D22T2/CN1、MDV-D28T2/CN1、MDV-D36T2/CN1



7. Air Velocity and Temperature Distributions





8. Capacity Tables

8.1 Cooling

TH: total capacity **SH**: sensible capacity

Indoor Unit size (kW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2.2	10.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.9	1.7
	12.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	14.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	16.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	18.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	20.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	21.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	23.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.7	1.5
	25.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	27.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	29.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	31.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	33.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.4	1.5
	35.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.4	1.5
	37.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.3	1.5
	39.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.2	1.6	2.3	1.5	2.3	1.5
2.8	10.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.7	2.1
	12.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	14.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	16.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.0
	18.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.5	2.0
	20.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	21.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	23.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.1	3.4	1.9
	25.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	27.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	29.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	31.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	33.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.1	2.0
	35.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	3.1	2.0
	37.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	2.9	1.9
	39.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.8	2.0	2.9	1.9	2.9	1.9
3.6	10.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.8	2.8
	12.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	14.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	16.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	18.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	20.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	21.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7

Indoor Unit size (kW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	23.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	25.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	27.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	29.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.5
	31.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.4
	33.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.0	2.4
	35.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	4.0	2.4
	37.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	3.9	2.3
	39.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.7	3.9	2.4

8.2 Heating

TH: total capacity

Indoor Unit size (kW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
2.20	-15.00	-14.70	1.64	1.64	1.64	1.64	1.64	1.64
	-13.00	-12.60	1.74	1.74	1.74	1.74	1.74	1.74
	-11.00	-10.50	1.82	1.82	1.82	1.82	1.82	1.82
	-10.00	-9.50	1.90	1.90	1.90	1.90	1.90	1.90
	-9.10	-8.50	1.95	1.95	1.95	1.95	1.95	1.95
	-7.60	-7.00	1.98	1.98	1.98	1.98	1.98	1.98
	-5.60	-5.00	2.05	2.05	2.05	2.05	2.05	2.05
	-3.70	-3.00	2.16	2.16	2.16	2.16	2.16	2.16
	-0.70	0.00	2.31	2.31	2.31	2.31	2.31	2.18
	2.20	3.00	2.44	2.44	2.44	2.44	2.39	2.18
	4.10	5.00	2.52	2.52	2.52	2.52	2.39	2.18
	6.00	7.00	2.60	2.60	2.60	2.52	2.39	2.18
	7.90	9.00	2.68	2.68	2.60	2.52	2.39	2.18
	9.80	11.00	2.76	2.76	2.60	2.52	2.39	2.18
	11.80	13.00	2.86	2.81	2.60	2.52	2.39	2.18
	13.70	15.00	2.94	2.81	2.60	2.52	2.39	2.18
2.80	-15.00	-14.70	2.02	2.02	2.02	2.02	2.02	2.02
	-13.00	-12.60	2.14	2.14	2.14	2.14	2.14	2.14
	-11.00	-10.50	2.24	2.24	2.24	2.24	2.24	2.24
	-10.00	-9.50	2.34	2.34	2.34	2.34	2.34	2.34
	-9.10	-8.50	2.40	2.40	2.40	2.40	2.40	2.40
	-7.60	-7.00	2.43	2.43	2.43	2.43	2.43	2.43
	-5.60	-5.00	2.53	2.53	2.53	2.53	2.53	2.53
	-3.70	-3.00	2.66	2.66	2.66	2.66	2.66	2.66
	-0.70	0.00	2.85	2.85	2.85	2.85	2.85	2.69
	2.20	3.00	3.01	3.01	3.01	3.01	2.94	2.69
	4.10	5.00	3.10	3.10	3.10	3.10	2.94	2.69

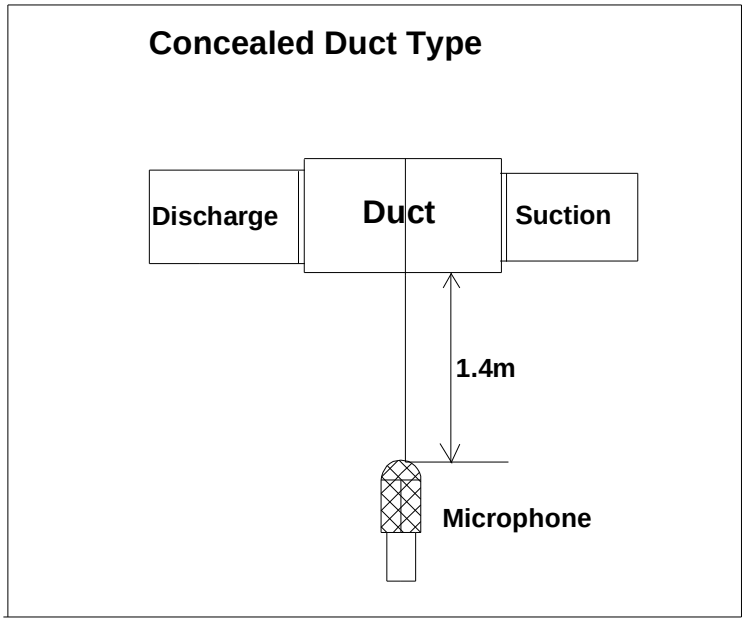
Indoor Unit size (kW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
	6.00	7.00	3.20	3.20	3.20	3.10	2.94	2.69
	7.90	9.00	3.30	3.30	3.20	3.10	2.94	2.69
	9.80	11.00	3.39	3.39	3.20	3.10	2.94	2.69
	11.80	13.00	3.52	3.46	3.20	3.10	2.94	2.69
	13.70	15.00	3.62	3.46	3.20	3.10	2.94	2.69
3.60	-15.00	-14.70	2.52	2.52	2.52	2.52	2.52	2.52
	-13.00	-12.60	2.68	2.68	2.68	2.68	2.68	2.68
	-11.00	-10.50	2.80	2.80	2.80	2.80	2.80	2.80
	-10.00	-9.50	2.92	2.92	2.92	2.92	2.92	2.92
	-9.10	-8.50	3.00	3.00	3.00	3.00	3.00	3.00
	-7.60	-7.00	3.04	3.04	3.04	3.04	3.04	3.04
	-5.60	-5.00	3.16	3.16	3.16	3.16	3.16	3.16
	-3.70	-3.00	3.32	3.32	3.32	3.32	3.32	3.32
	-0.70	0.00	3.56	3.56	3.56	3.56	3.56	3.36
	2.20	3.00	3.76	3.76	3.76	3.76	3.68	3.36
	4.10	5.00	3.88	3.88	3.88	3.88	3.68	3.36
	6.00	7.00	4.00	4.00	4.00	3.88	3.68	3.36
	7.90	9.00	4.12	4.12	4.00	3.88	3.68	3.36
	9.80	11.00	4.24	4.24	4.00	3.88	3.68	3.36
	11.80	13.00	4.40	4.32	4.00	3.88	3.68	3.36
	13.70	15.00	4.52	4.32	4.00	3.88	3.68	3.36

9. Electric Characteristics

Model	Indoor Unit				Power Supply	IFM	
	Hz	Voltage	Min.	Max.	MFA	kW	FLA
MDV-D22T2/CN1	50	220-240	198	254	15	0.014	0.157
MDV-D28T2/CN1	50	220-240	198	254	15	0.014	0.157
MDV-D36T2/CN1	50	220-240	198	254	15	0.014	0.157

Remark:
MFA: Max. Fuse Amps. (A)
KW: Fan Motor Rated Output (KW)
FLA: Full Load Amps. (A)
IFM: Indoor Fan Motor

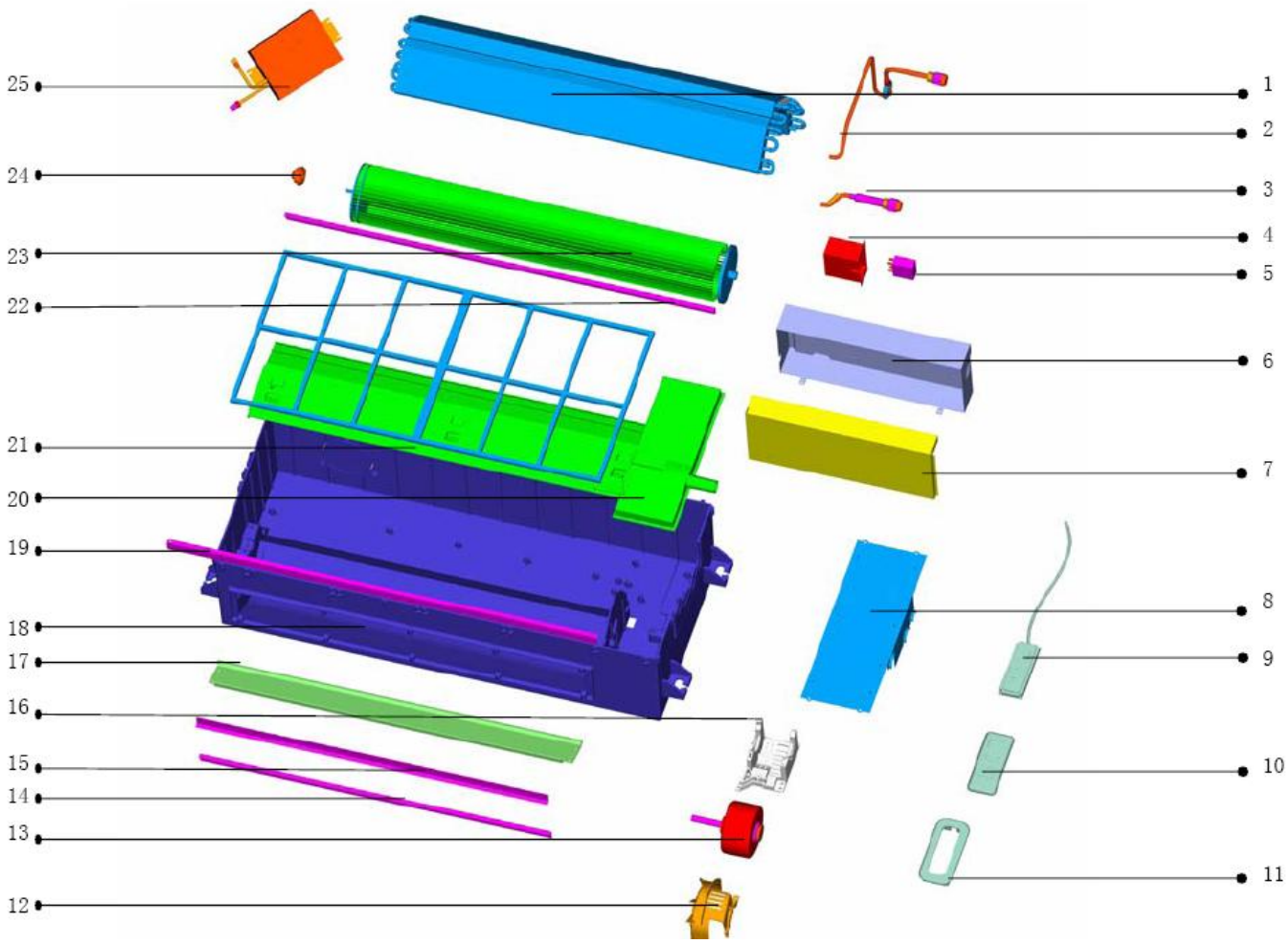
10. Sound Levels



Model	Noise level dB(A)		
	H	M	L
MDV-D22T2/CN1	35	32	30
MDV-D28T2/CN1	35	33	31
MDV-D36T2/CN1	35	33	31

11. Exploded View

MDV-D22T2/CN1、MDV-D28T2/CN1、MDV-D36T2/CN1



No.	Part Name	Quantity		No.	Part Name	Quantity
1	Evaporator ass'y	1		14	Fixing board	1
2	Input pipe ass'y	1		15	Fixing board	1
3	Output pipe ass'y	1		16	Motor base	1
4	Capacitor box	1		17	Volute tongue	1
5	Motor capacitor	1		18	Base	1
6	E-part box ass'y	1		19	Return air fixing box board	1
7	E-part box cover	1		20	Drainage pan	1
8	Drainage pan cover	1		21	Filter	2
9	Display board ass'y	1		22	Return air fixing box board	1
10	Remote controller	1		23	Fan	1
11	Installation box	1		24	Bearing	1
12	Motor cover	1		25	Electric throttle assembly	1
13	Motor	1				

12. Accessories

Name	Quantity	Outline	Function
Installation manual	1	This manual	—
Insulation pipe	2		Insulating the pipe joint
Remote controller	1		—
7# alkaline battery	2		—
Remote signal receiver subassembly	1	—	—
Big washer	8	—	—
Constriction bandage	10	—	—
Duct installation accessory	1	—	Duct installation
Electronic throttle device	1	—	—
Drain hose	1	—	—

Medium Static Pressure Duct Type

1. Features 88
2. Specifications 89
3. Dimensions 92
4. Service Space 94
5. Piping Diagrams 94
6. Wiring Diagrams 95
7. Air Velocity and Temperature Distributions 97
8. Capacity Tables 98
9. Fan performances 104
10. Electric Characteristics 105
11. Sound Levels 105
12. Exploded View 106
13. Accessories 109

1. Features

1) Normal body

①. Economic and convenient installation

---Several diffusers branch off from an indoor unit, adjusting the room temperature, which makes many rooms to be air-conditioned with only one indoor unit.

---All models feature thin design making them applicable to ceiling pocket that tends to be shallow

②. A wild variety of optional accessories

---Including front clapboard, panel, canvas air passage, filter, etc.

Canvas air passage

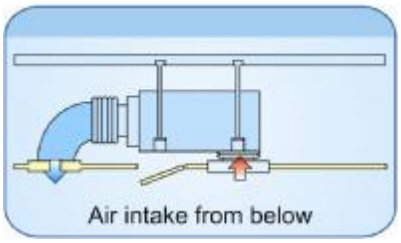
Clapboard

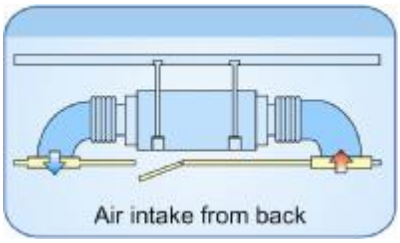
Panel

③. A long-life and high-efficiency filter

④. Way of air intake and inserting air filter

---Air intake can be positioned either at the back or below the unit. Similarly, the air filter also can be inserted either from the back or from the bottom of the unit.





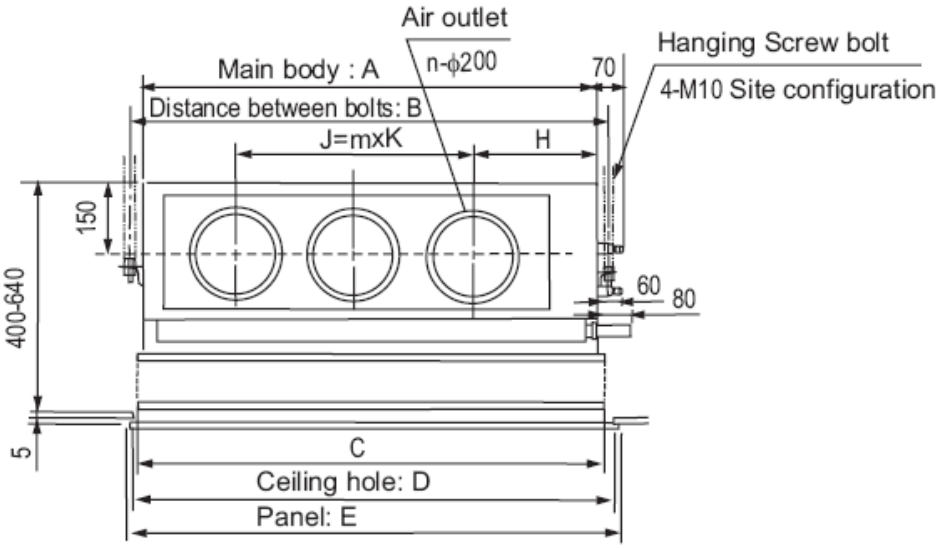
2. Specifications

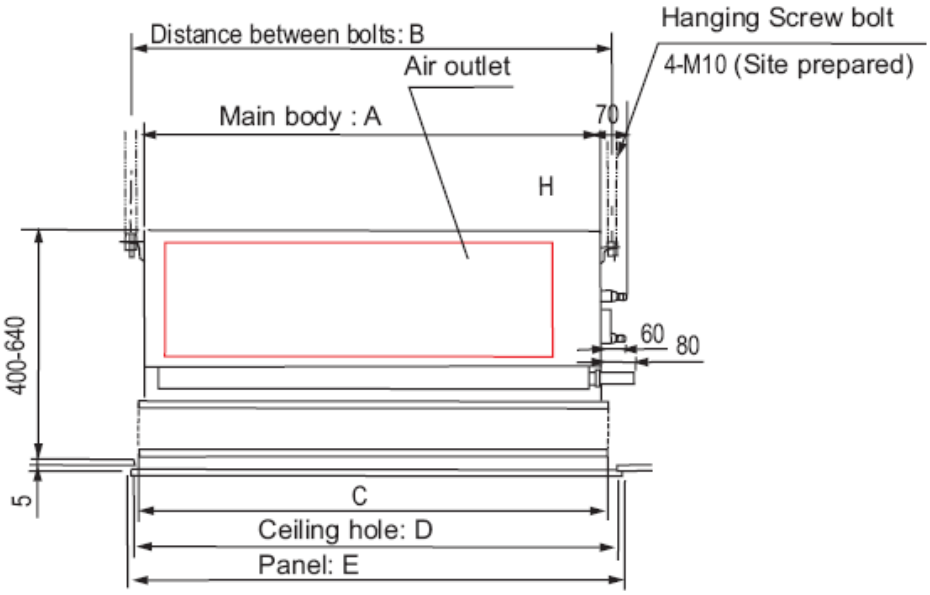
Sale Model				MDV-D45T2/CN1	MDV-D56T2/CN1
Power supply			V-ph-Hz	220~240-1-50	220~240-1-50
Cooling	Capacity		kW	4.5	5.6
	Input		W	110	110
	Rated current		A	0.5	0.5
Heating	Capacity		kW	5.0	6.3
	Input		W	110	110
	Rated current		A	0.5	0.5
Indoor fan motor	Model			YSK55-4D	YSK55-4D
	Type			AC MOTOR	AC MOTOR
	Brand			Welling	Welling
	Input		W	117/110/101	117/110/101
	Capacitor		uF	3uF/450V	3uF/450V
	Speed(hi/mi/lo)		r/min	900/800/690	900/800/690
Indoor coil	a.Number of rows			3	3
	b.Tube pitch(a)x row pitch(b)		mm	25.4×22	25.4×22
	c.Fin spacing		mm	1.7	1.7
	d.Fin type (code)			Hydrophilic aluminum	
	e.Tube outside dia.and type		mm	Φ9.53	Φ9.53
				Inner groove tube	Inner groove tube
	f.Coil length x height x width		mm	800x66 x254	800x66 x254
	g.Number of circuits			2	2
Indoor air flow (Hi/Mi/Lo)			m^3/h	1160/1100/950	1160/1100/950
Indoor external static pressure (Hi)			Pa	40	40
Sound level (sound pressure)			dB(A)	45/41/38	45/41/38
Indoor unit	Dimension (W x H x D)		Mm	1000×298×800	1000×298×800
	Packing (W x H x D)		Mm	1205x370x940	1205x370x940
	Net/Gross weight		Kg	38/45	38/45
Refrigerant	Type			R410A	R410A
Design pressure			MPa	4.4/2.5	4.4/2.5
Refrigerant piping		Liquid side/ Gas side	Mm	Φ6.35/Φ12.7	Φ9.53/Φ16
Connection wiring		Power wiring	Mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)	
		Signal wiring	Mm^2	3×1.0	
Drainage water pipe dia.			Mm	Φ32	Φ32
Controller				Wireless remote controller R51(standard)	
Operation temp			℃	17～30	
Application area			m^2	15~45	15~45

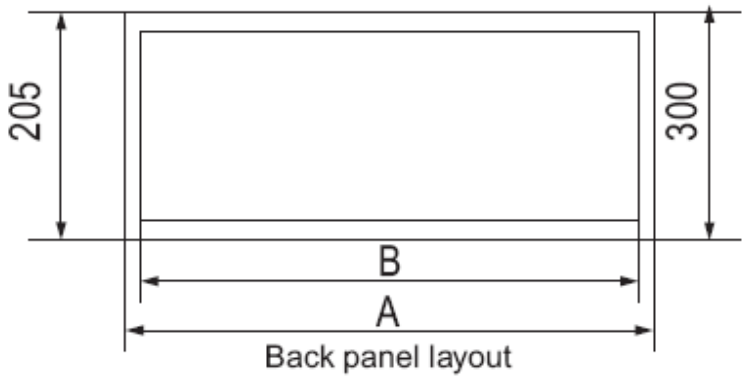
Sale Model				MDV-D71T2/CN1	MDV-D80T2/CN1
Power supply			V-ph-Hz	220~240-1-50	220~240-1-50
Cooling	Capacity		kW	7.1	8.0
	Input		W	150	150
	Rated current		A	0.72	0.72
Heating	Capacity		kW	8.0	9.0
	Input		W	150	150
	Rated current		A	0.72	0.72
Indoor fan motor	Model			YSK74-4C	YSK74-4C
	Type			AC MOTOR	AC MOTOR
	Brand			Welling	Welling
	Input		w	170/150/133	170/150/133
	Capacitor		uF	6.5UF/450V	6.5UF/450V
	Speed(hi/mi/lo)		r/min	1100/1020/900	1100/1020/900
Indoor coil	a.Number of rows			3	3
	b.Tube pitch(a)x row pitch(b)		mm	25.4×22	25.4×22
	c.Fin spacing		mm	1.7	1.7
	d.Fin type (code)			Hydrophilic aluminum	
	e.Tube outside dia.and type		mm	Φ9.53	Φ9.53
				Inner groove tube	
	f.Coil length x height x width		mm	800x66 x254	800x66 x254
	g.Number of circuits			3	3
Indoor air flow (Hi/Mi/Lo)			m^3/h	1400/1100/900	1400/1100/900
Indoor external static pressure (Hi)			Pa	40	40
Sound level (sound pressure)			dB(A)	46/44/42	46/44/42
Indoor unit	Dimension (W x H x D)		Mm	1000×298×800	1000×298×800
	Packing (W x H x D)		Mm	1205x370x940	1205x370x940
	Net/Gross weight		Kg	38/45	38/45
Refrigerant	Type			R410A	R410A
Design pressure			MPa	4.4/2.5	4.4/2.5
Refrigerant piping		Liquid side/ Gas side	Mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9
Connection wiring		Power wiring	Mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)	
		Signal wiring	Mm^2	3×1.0	
Drainage water pipe dia.			Mm	Φ32	Φ32
Controller				Wireless remote controller R51(standard)	
Operation temp			℃	17～30	
Application area			m^2	24~71	25~80

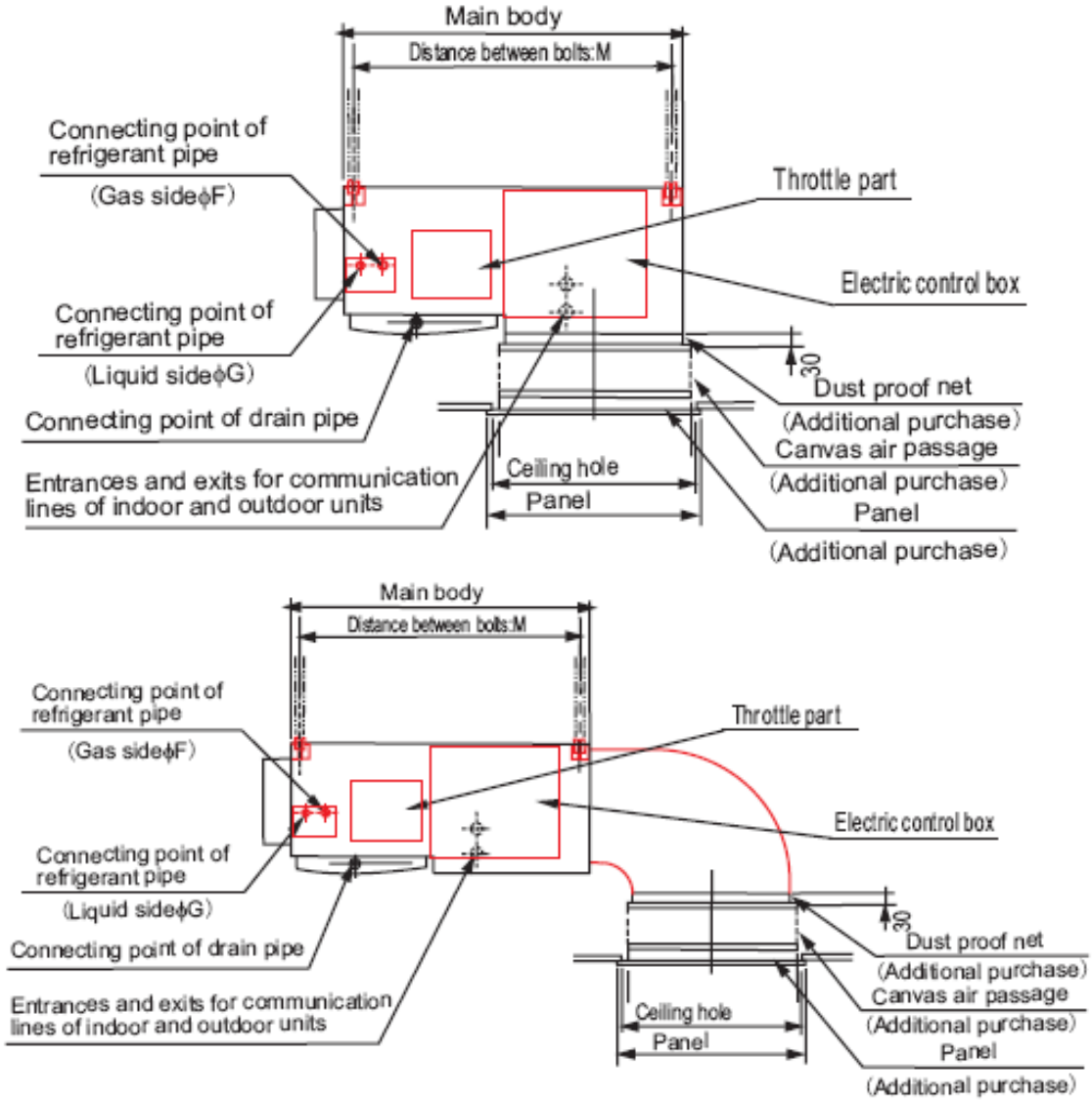
Sale Model				MDV-D90T2/CN1	MDV-D112T2/CN1	MDV-D140T2/CN1
Power supply			V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50
Cooling	Capacity		kW	9.0	11.2	14.0
	Input		W	215	215	215
	Rated current		A	0.98	0.98	0.98
Heating	Capacity		kW	10.0	12.5	15.5
	Input		W	215	215	215
	Rated current		A	0.98	0.98	0.98
Indoor fan motor	Model			YSK59-4A x2	YSK59-4A x2	YSK59-4A x2
	Type			AC MOTOR	AC MOTOR	AC MOTOR
	Brand			Welling	Welling	Welling
	Input		W	104/87/78	104/87/78	104/87/78
	Capacitor		uF	4UF/450V x2	4UF/450V x2	4UF/450V x2
	Speed(hi/mi/lo)		r/min	840//695/610	840//695/610	840//695/610
Indoor coil	a.Number of rows			3	3	3
	b.Tube pitch(a)x row pitch(b)		mm	25.4×22	25.4×22	25.4×22
	c.Fin spacing		mm	1.7	1.7	1.7
	d.Fin type (code)			Hydrophilic aluminum		
	e.Tube outside dia.and type		mm	Φ9.53	Φ9.53	Φ9.53
				Inner groove tube		
	f.Coil length x height x width		mm	1150x66 x254	1150x66 x254	1150x66 x254
	g.Number of circuits			5	5	5
Indoor air flow (Hi/Mi/Lo)			m^3/h	1800/1500/1200	1800/1500/1200	1800/1500/1200
Indoor external static pressure (Hi)			Pa	70	70	70
Sound level (sound pressure)			dB(A)	47/45/43	47/45/43	48/46/44
Indoor unit	Dimension (W x H x D)		Mm	1350×298×800	1350×298×800	1350×298×800
	Packing (W x H x D)		Mm	1555X370 X940	1555X370 X940	1555X370 X940
	Net/Gross weight		Kg	48/57	51/58	51/58
Refrigerant	Type			R410A	R410A	R410A
Design pressure			MPa	4.4/2.5	4.4/2.5	4.4/2.5
Refrigerant piping		Liquid side/ Gas side	Mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9	Φ9.53/Φ15.9
Connection wiring		Power wiring	Mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)		
		Signal wiring	Mm^2	3×1.0		
Drainage water pipe dia.			Mm	Φ32	Φ32	Φ32
Controller				Wireless remote controller R51(standard)		
Operation temp			℃	17～30		
Application area			m^2	25~90	35~110	45~140

3. Dimensions



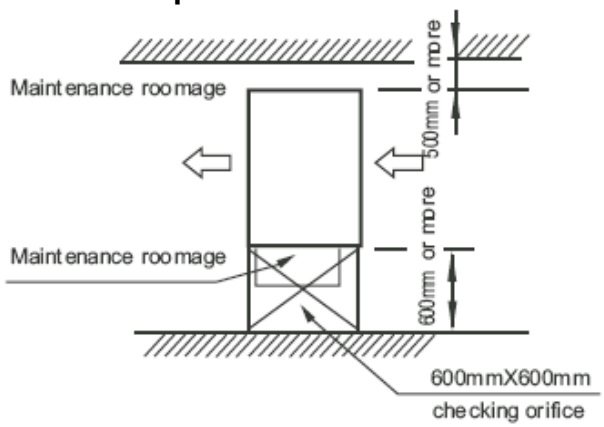


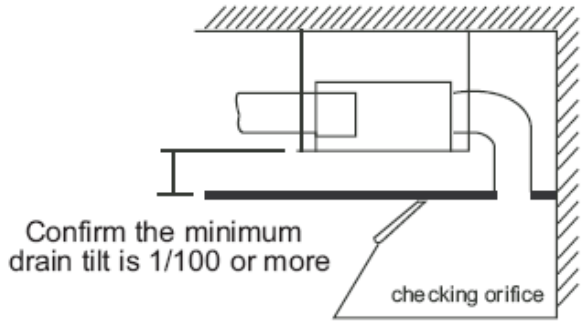




Cooling capacity(w)	A	B	C	D	E	F	G	H	J	K	L	M	m
4500~8000	1082	1052	1112	1085	1470	19	9.53	252	580	290	-	721	2
9000~14000	1350	1400	1380	1400	1430	16	9.53	252	930	310	-	721	3

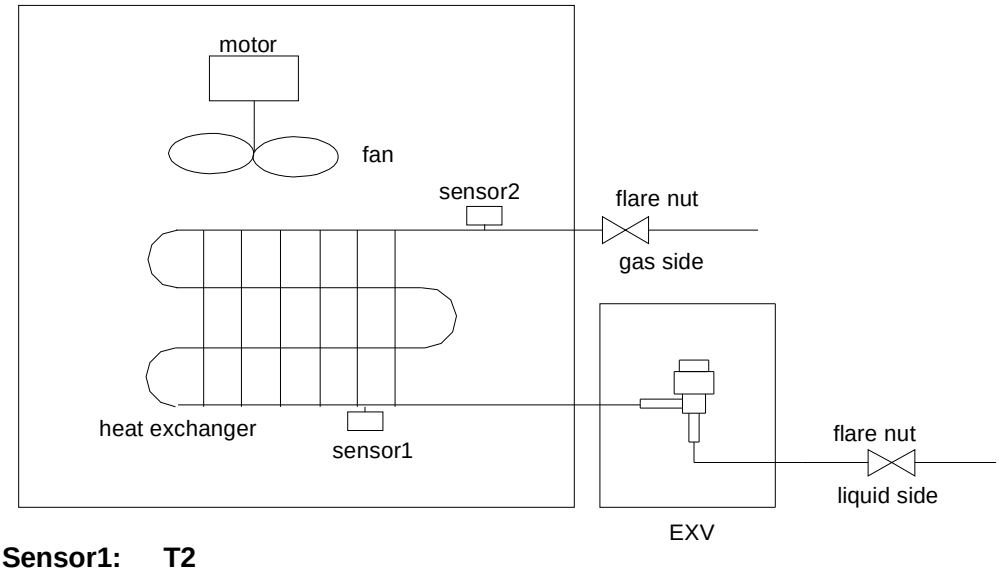
4. Service Space





5. Piping Diagrams

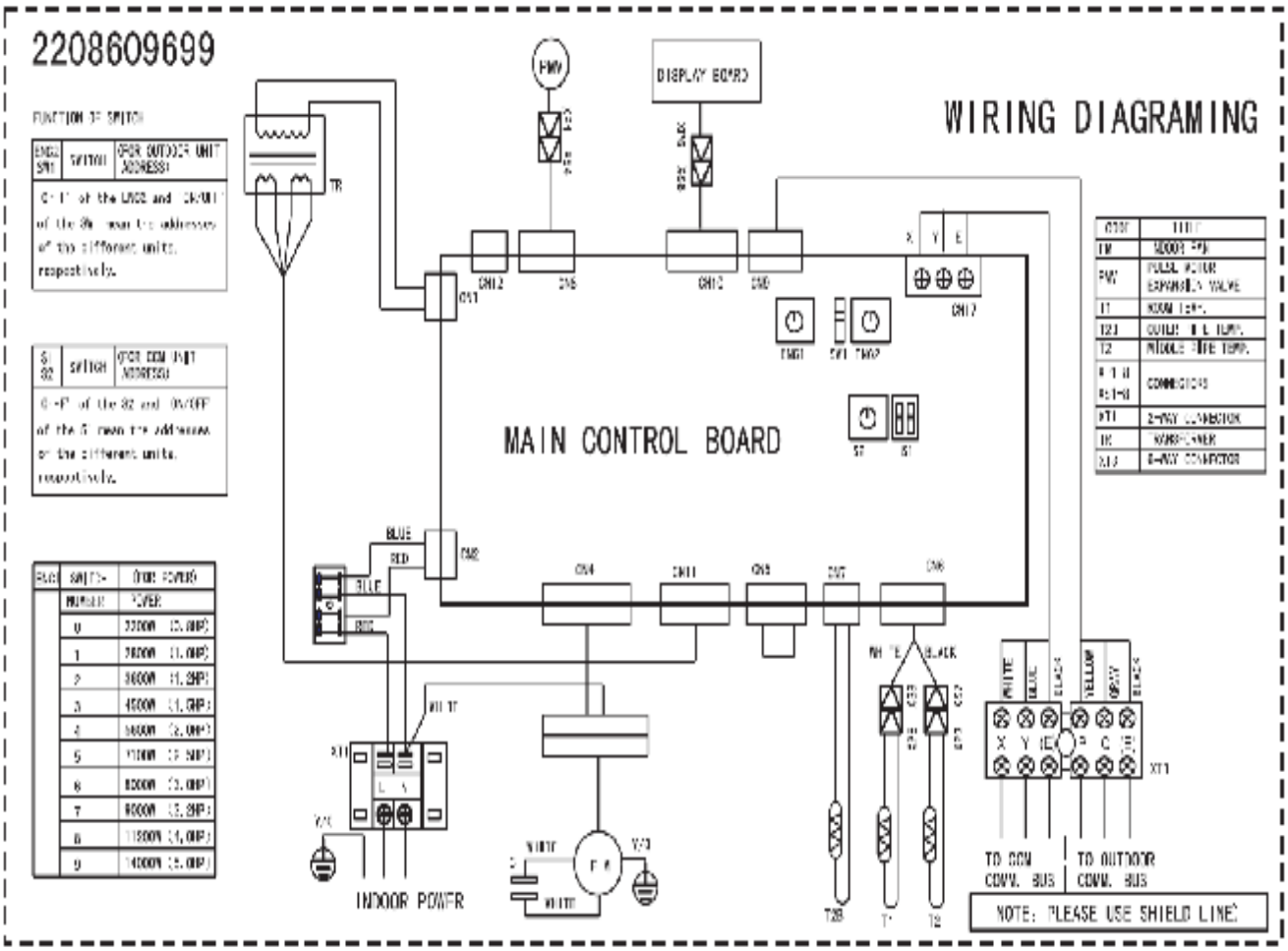
MDV-D45T2/CN1、MDV-D56T2/CN1、MDV-D71T2/CN1、MDV-D80T2/CN1、MDV-D90T2/CN1、MDV-D112T2/CN1、MDV-D140T2/CN1



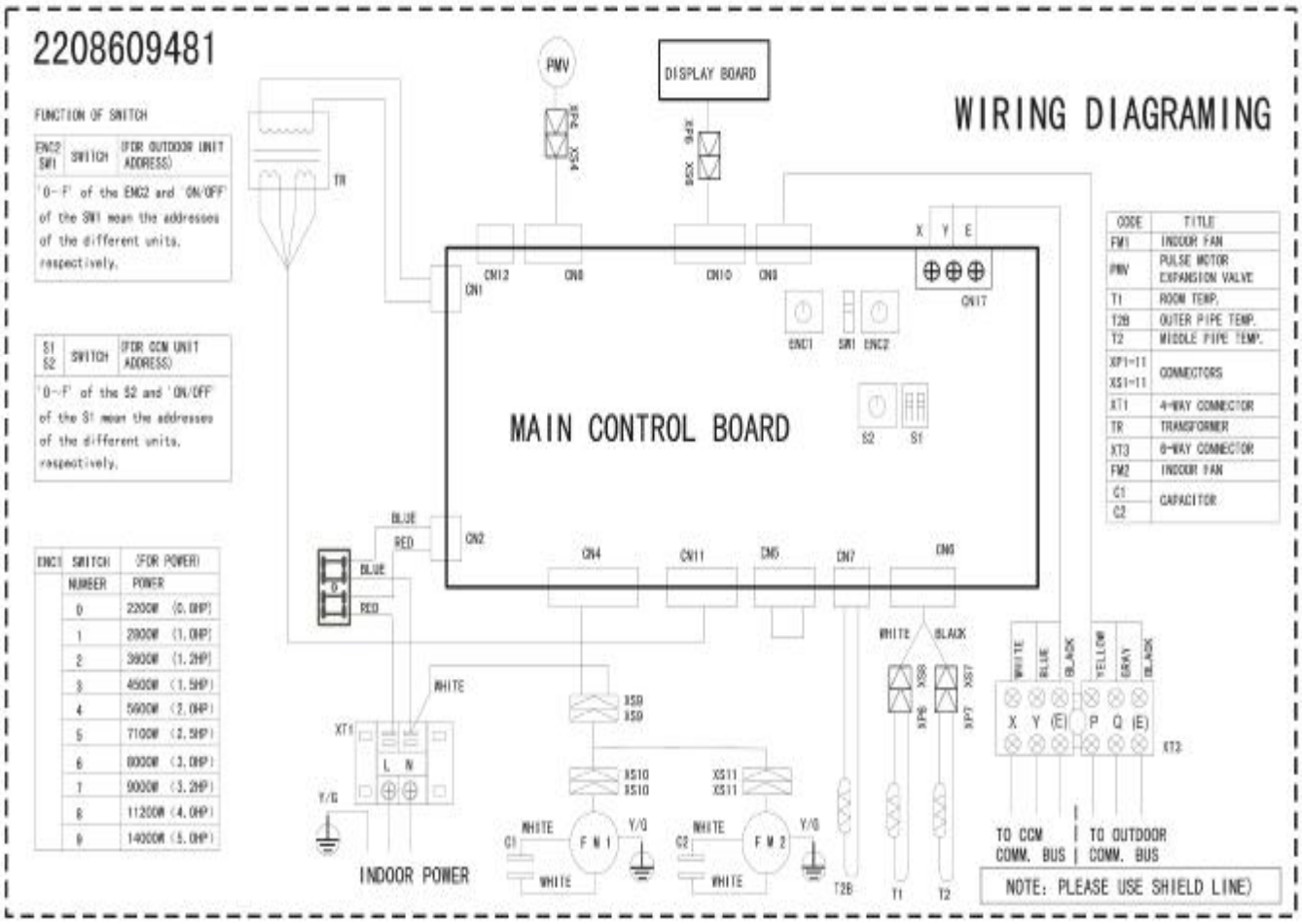
Sensor1: T2
Sensor2: T2B

6. Wiring Diagrams

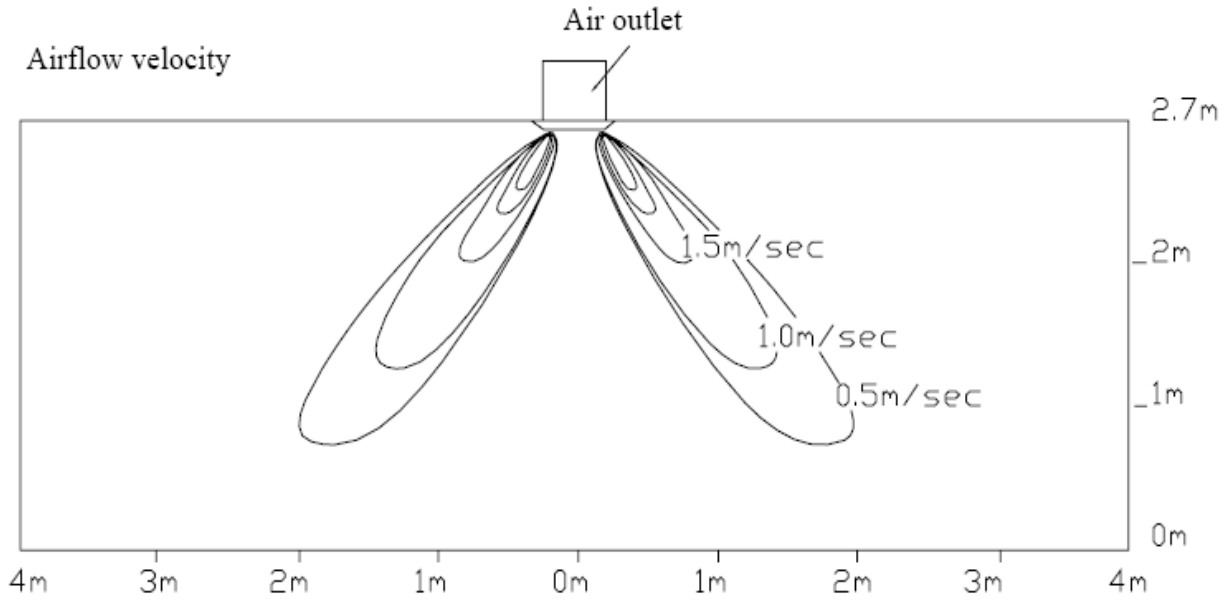
MDV-D45T2/CN1、MDV-D56T2/CN1、MDV-D71T2/CN1、MDV-D80T2/CN1

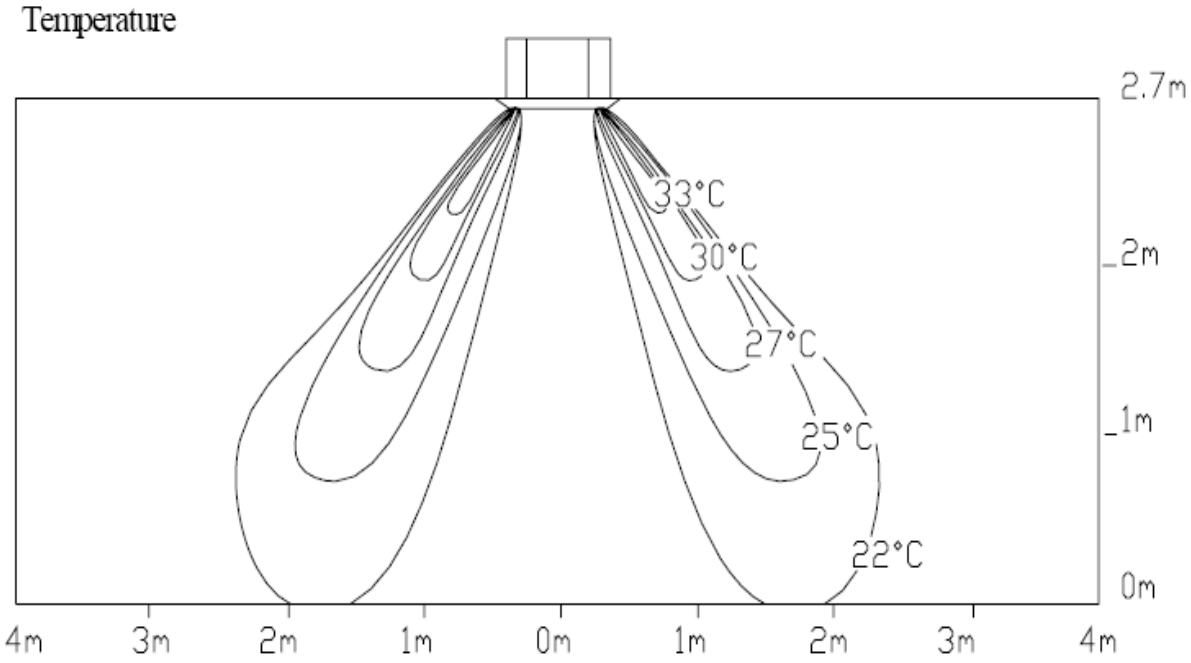


MDV-D90T2/CN1、MDV-D112T2/CN1、MDV-D140T2/CN1



7. Air Velocity and Temperature Distributions





8. Capacity Tables

8.1 Cooling

TH: total capacity **SH**: sensible capacity

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
4.5	10.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.8	3.3
	12.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.8	3.3
	14.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.7	3.2
	16.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.5	3.1
	18.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.5	3.1
	20.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.4	3.1
	21.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.3	3.0
	23.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.1	3.1	5.2	3.0
	25.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.1	3.1	5.1	2.9
	27.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	4.9	3.0	5.1	2.9
	29.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	4.9	3.0	5.0	2.9
	31.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.4	5.0	2.9
	33.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.4	4.8	2.8
	35.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.1	3.4	4.7	2.8
	37.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.5	3.2	4.7	3.1	4.7	2.8
	39.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.5	3.2	4.7	3.1	4.7	2.8
5.6	10.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	12.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	14.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.2	4.1
	16.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	18.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	20.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	21.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.0	4.1
	23.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	25.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.5	4.1	6.8	3.9
	27.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.4	4.0	6.5	3.8
	29.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.3	4.0	6.4	3.7
	31.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.2	3.9	6.3	3.7
	33.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.0	3.8	6.3	3.7
	35.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.7	6.2	3.6
	37.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.9	6.1	3.5
	39.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	5.7	3.8	5.8	3.8	6.0	3.5
7.1	10.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	9.1	4.8
	12.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	9.0	4.7
	14.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.9	4.7
	16.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.8	4.6
	18.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.5	4.6
	20.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.4	4.5
	21.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.3	4.5

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
8.0	23.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.2	4.4
	25.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.1	4.4
	27.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.0	4.8	8.1	4.3
	29.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	7.8	4.7	8.0	4.5
	31.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	7.8	4.7	7.7	4.3
	33.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	7.7	4.6	7.7	4.3
	35.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	7.5	4.5	7.6	4.2
	37.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	7.4	4.4	7.5	4.2
	39.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.1	4.6	7.3	4.4	7.5	4.2
	10.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	10.3	5.5
	12.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	10.1	5.5
	14.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	10.0	5.4
	16.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.9	5.3
	18.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.6	5.2
	20.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.5	5.1
	21.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.3	5.0
	23.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.2	5.0
	25.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.2	4.9
	27.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.0	5.2	9.1	5.0
	29.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.4	8.8	5.2	9.0	5.0
	31.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.4	8.8	5.2	8.7	4.8
	33.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.4	8.7	5.1	8.7	4.8
	35.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.4	8.5	5.0	8.5	4.7
	37.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.2	5.3	8.3	5.0	8.5	4.8
	39.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.0	5.2	8.2	4.9	8.5	4.8
9.0	10.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	11.4	6.4
	12.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	11.3	6.3
	14.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	11.2	6.3
	16.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	11.0	6.2
	18.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	10.7	6.1
	20.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	10.6	6.0
	21.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	10.4	5.9
	23.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	10.3	5.9
	25.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	10.2	5.8
	27.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.0	6.2	10.1	5.8
	29.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	9.9	6.1	10.0	5.7
	31.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	9.8	6.1	9.7	5.6
	33.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	9.7	6.0	9.7	5.6
	35.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.3	6.3	9.4	5.8	9.5	5.6
	37.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.1	6.2	9.2	5.7	9.4	5.6
	39.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.0	6.1	9.2	5.7	9.4	5.6
11.2	10.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	16.1	9.4

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	12.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	15.1	8.8
	14.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	14.9	8.6
	16.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	14.7	8.6
	18.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	14.6	8.5
	20.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	14.5	8.4
	21.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	14.4	8.3
	23.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.7	8.5	14.3	8.3
	25.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.6	8.4	14.2	8.2
	27.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.5	8.3	14.0	8.1
	29.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.3	8.3	13.9	8.2
	31.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.2	8.2	13.3	7.9
	33.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.1	8.1	13.1	7.7
	35.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.3	8.4	13.0	8.1	12.9	7.6
	37.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.2	8.3	12.9	8.0	12.6	7.5
	39.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	11.9	8.1	12.8	7.9	12.4	7.4
14.00	10.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	18.2	10.2
	12.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	17.9	10.0
	14.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	17.8	10.0
	16.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	17.5	9.8
	18.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	17.1	9.6
	20.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	16.8	9.4
	21.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	16.5	9.3
	23.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.4	10.2	16.4	9.2
	25.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.2	10.1	16.2	9.1
	27.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.1	10.0	16.1	9.2
	29.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.0	9.9	16.0	9.1
	31.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	15.8	9.8	15.4	8.8
	33.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	15.7	9.7	15.4	8.8
	35.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.7	9.7	15.1	9.4	15.1	8.8
	37.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.6	9.6	15.1	9.4	15.0	8.7
	39.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.3	9.4	14.6	9.2	15.0	8.8

8.2 Heating

TC: total capacity

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16	18	20	21	22	24
			TC	TC	TC	TC	TC	TC
	WB	DB	kW	kW	kW	kW	kW	kW
4.50	-15.00	-14.70	3.15	3.15	3.15	3.15	3.15	3.15
	-13.00	-12.60	3.35	3.35	3.35	3.35	3.35	3.35
	-11.00	-10.50	3.50	3.50	3.50	3.50	3.50	3.50
	-10.00	-9.50	3.65	3.65	3.65	3.65	3.65	3.65
	-9.10	-8.50	3.75	3.75	3.75	3.75	3.75	3.75
	-7.60	-7.00	3.80	3.80	3.80	3.80	3.80	3.80
	-5.60	-5.00	3.95	3.95	3.95	3.95	3.95	3.95
	-3.70	-3.00	4.15	4.15	4.15	4.15	4.15	4.15
	-0.70	0.00	4.45	4.45	4.45	4.45	4.45	4.20
	2.20	3.00	4.70	4.70	4.70	4.70	4.60	4.20
	4.10	5.00	4.85	4.85	4.85	4.85	4.60	4.20
	6.00	7.00	5.00	5.00	5.00	4.85	4.60	4.20
	7.90	9.00	5.15	5.15	5.00	4.85	4.60	4.20
	9.80	11.00	5.30	5.30	5.00	4.85	4.60	4.20
	11.80	13.00	5.50	5.40	5.00	4.85	4.60	4.20
	13.70	15.00	5.65	5.40	5.00	4.85	4.60	4.20
5.6	-15.00	-14.70	3.97	3.97	3.97	3.97	3.97	3.97
	-13.00	-12.60	4.22	4.22	4.22	4.22	4.22	4.22
	-11.00	-10.50	4.41	4.41	4.41	4.41	4.41	4.41
	-10.00	-9.50	4.60	4.60	4.60	4.60	4.60	4.60
	-9.10	-8.50	4.73	4.73	4.73	4.73	4.73	4.73
	-7.60	-7.00	4.79	4.79	4.79	4.79	4.79	4.79
	-5.60	-5.00	4.98	4.98	4.98	4.98	4.98	4.98
	-3.70	-3.00	5.23	5.23	5.23	5.23	5.23	5.23
	-0.70	0.00	5.61	5.61	5.61	5.61	5.61	5.29
	2.20	3.00	5.92	5.92	5.92	5.92	5.80	5.29
	4.10	5.00	6.11	6.11	6.11	6.11	5.80	5.29
	6.00	7.00	6.30	6.30	6.30	6.11	5.80	5.29
	7.90	9.00	6.49	6.49	6.30	6.11	5.80	5.29
	9.80	11.00	6.68	6.68	6.30	6.11	5.80	5.29
	11.80	13.00	6.93	6.80	6.30	6.11	5.80	5.29
	13.70	15.00	7.12	6.80	6.30	6.11	5.80	5.29
7.1	-15.00	-14.70	5.04	5.04	5.04	5.04	5.04	5.04
	-13.00	-12.60	5.36	5.36	5.36	5.36	5.36	5.36
	-11.00	-10.50	5.60	5.60	5.60	5.60	5.60	5.60
	-10.00	-9.50	5.84	5.84	5.84	5.84	5.84	5.84
	-9.10	-8.50	6.00	6.00	6.00	6.00	6.00	6.00
	-7.60	-7.00	6.08	6.08	6.08	6.08	6.08	6.08
	-5.60	-5.00	6.32	6.32	6.32	6.32	6.32	6.32
	-3.70	-3.00	6.64	6.64	6.64	6.64	6.64	6.64

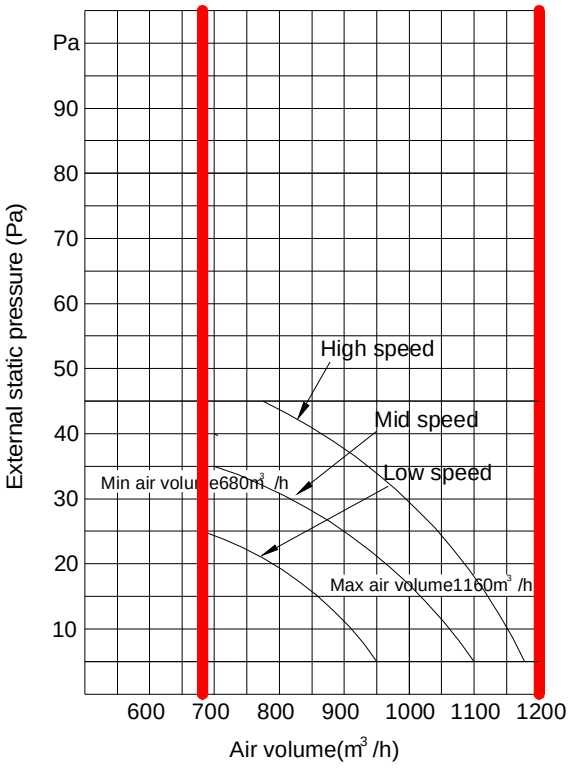
Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16	18	20	21	22	24
			TC	TC	TC	TC	TC	TC
	WB	DB	kW	kW	kW	kW	kW	kW
	-0.70	0.00	7.12	7.12	7.12	7.12	7.12	6.72
	2.20	3.00	7.52	7.52	7.52	7.52	7.36	6.72
	4.10	5.00	7.76	7.76	7.76	7.76	7.36	6.72
	6.00	7.00	8.00	8.00	8.00	7.76	7.36	6.72
	7.90	9.00	8.24	8.24	8.00	7.76	7.36	6.72
	9.80	11.00	8.48	8.48	8.00	7.76	7.36	6.72
	11.80	13.00	8.80	8.64	8.00	7.76	7.36	6.72
	13.70	15.00	9.04	8.64	8.00	7.76	7.36	6.72
8.0	-15	-14.7	5.67	5.67	5.67	5.67	5.67	5.67
	-13	-12.6	6.03	6.03	6.03	6.03	6.03	6.03
	-11	-10.5	6.30	6.30	6.30	6.30	6.30	6.30
	-10	-9.5	6.57	6.57	6.57	6.57	6.57	6.57
	-9.1	-8.5	6.75	6.75	6.75	6.75	6.75	6.75
	-7.6	-7	6.84	6.84	6.84	6.84	6.84	6.84
	-5.6	-5	7.11	7.11	7.11	7.11	7.11	7.11
	-3.7	-3	7.47	7.47	7.47	7.47	7.47	7.47
	-0.7	0	8.01	8.01	8.01	8.01	8.01	7.56
	2.2	3	8.46	8.46	8.46	8.46	8.28	7.56
	4.1	5	8.73	8.73	8.73	8.73	8.28	7.56
	6	7	9.00	9.00	9.00	8.73	8.28	7.56
	7.9	9	9.27	9.27	9.00	8.73	8.28	7.56
	9.8	11	9.54	9.54	9.00	8.73	8.28	7.56
	11.8	13	9.90	9.72	9.00	8.73	8.28	7.56
	13.7	15	10.17	9.72	9.00	8.73	8.28	7.56
9.0	-15	-14.7	6.30	6.30	6.30	6.30	6.30	6.30
	-13	-12.6	6.70	6.70	6.70	6.70	6.70	6.70
	-11	-10.5	7.00	7.00	7.00	7.00	7.00	7.00
	-10	-9.5	7.30	7.30	7.30	7.30	7.30	7.30
	-9.1	-8.5	7.50	7.50	7.50	7.50	7.50	7.50
	-7.6	-7	7.60	7.60	7.60	7.60	7.60	7.60
	-5.6	-5	7.90	7.90	7.90	7.90	7.90	7.90
	-3.7	-3	8.30	8.30	8.30	8.30	8.30	8.30
	-0.7	0	8.90	8.90	8.90	8.90	8.90	8.40
	2.2	3	9.40	9.40	9.40	9.40	9.20	8.40
	4.1	5	9.70	9.70	9.70	9.70	9.20	8.40
	6	7	10.00	10.00	10.00	9.70	9.20	8.40
	7.9	9	10.30	10.30	10.00	9.70	9.20	8.40
	9.8	11	10.60	10.60	10.00	9.70	9.20	8.40
	11.8	13	11.00	10.80	10.00	9.70	9.20	8.40
	13.7	15	11.30	10.80	10.00	9.70	9.20	8.40
11.2	-15	-14.7	7.88	7.88	7.88	7.88	7.88	7.88
	-13	-12.6	8.38	8.38	8.38	8.38	8.38	8.38

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16	18	20	21	22	24
			TC	TC	TC	TC	TC	TC
	WB	DB	kW	kW	kW	kW	kW	kW
	-11	-10.5	8.75	8.75	8.75	8.75	8.75	8.75
	-10	-9.5	9.13	9.13	9.13	9.13	9.13	9.13
	-9.1	-8.5	9.38	9.38	9.38	9.38	9.38	9.38
	-7.6	-7	9.50	9.50	9.50	9.50	9.50	9.50
	-5.6	-5	9.88	9.88	9.88	9.88	9.88	9.88
	-3.7	-3	10.38	10.38	10.38	10.38	10.38	10.38
	-0.7	0	11.13	11.13	11.13	11.13	11.13	10.50
	2.2	3	11.75	11.75	11.75	11.75	11.50	10.50
	4.1	5	12.13	12.13	12.13	12.13	11.50	10.50
	6	7	12.50	12.50	12.50	12.13	11.50	10.50
	7.9	9	12.88	12.88	12.50	12.13	11.50	10.50
	9.8	11	13.25	13.25	12.50	12.13	11.50	10.50
	11.8	13	13.75	13.50	12.50	12.13	11.50	10.50
	13.7	15	14.13	13.50	12.50	12.13	11.50	10.50
14.0	-15	-14.7	9.77	9.77	9.77	9.77	9.77	9.77
	-13	-12.6	10.39	10.39	10.39	10.39	10.39	10.39
	-11	-10.5	10.85	10.85	10.85	10.85	10.85	10.85
	-10	-9.5	11.32	11.32	11.32	11.32	11.32	11.32
	-9.1	-8.5	11.63	11.63	11.63	11.63	11.63	11.63
	-7.6	-7	11.78	11.78	11.78	11.78	11.78	11.78
	-5.6	-5	12.25	12.25	12.25	12.25	12.25	12.25
	-3.7	-3	12.87	12.87	12.87	12.87	12.87	12.87
	-0.7	0	13.80	13.80	13.80	13.80	13.80	13.02
	2.2	3	14.57	14.57	14.57	14.57	14.26	13.02
	4.1	5	15.04	15.04	15.04	15.04	14.26	13.02
	6	7	15.50	15.50	15.50	15.04	14.26	13.02
	7.9	9	15.97	15.97	15.50	15.04	14.26	13.02
	9.8	11	16.43	16.43	15.50	15.04	14.26	13.02
	11.8	13	17.05	16.74	15.50	15.04	14.26	13.02
	13.7	15	17.52	16.74	15.50	15.04	14.26	13.02

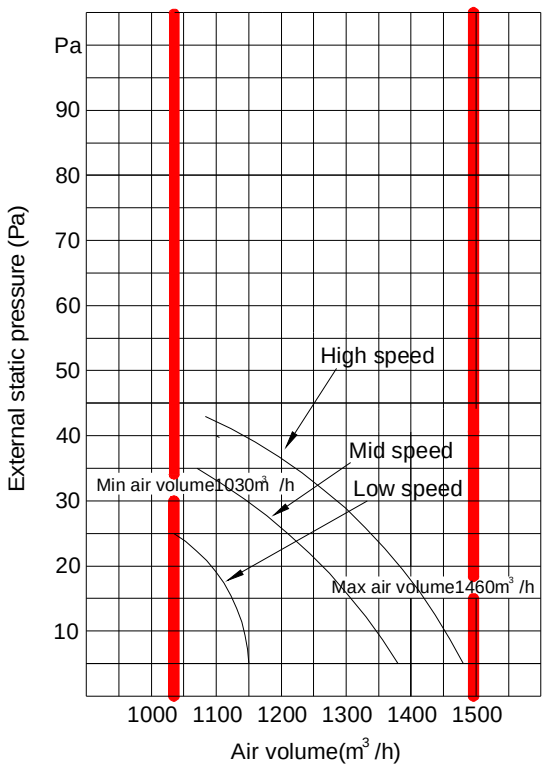
9. Fan performances

Static pressure curve

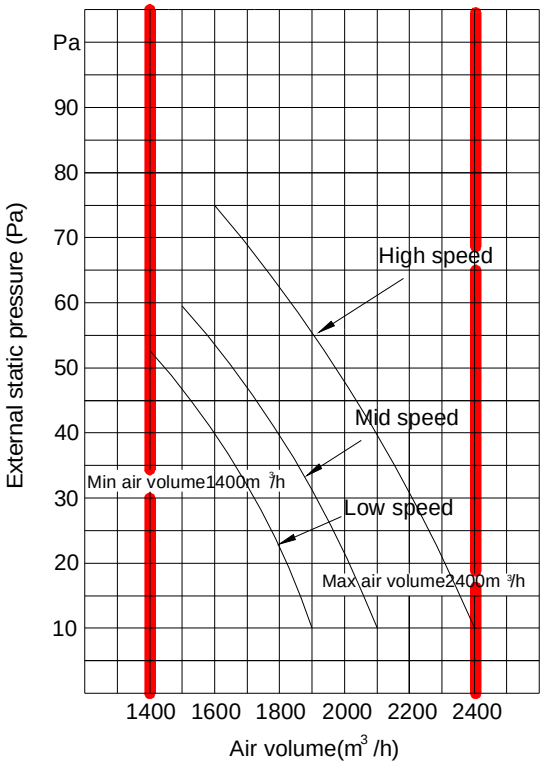
MDVD45,56T2/CN1



MDVD71,80T2/CN1



MDVD90 , 112,140T2/CN1

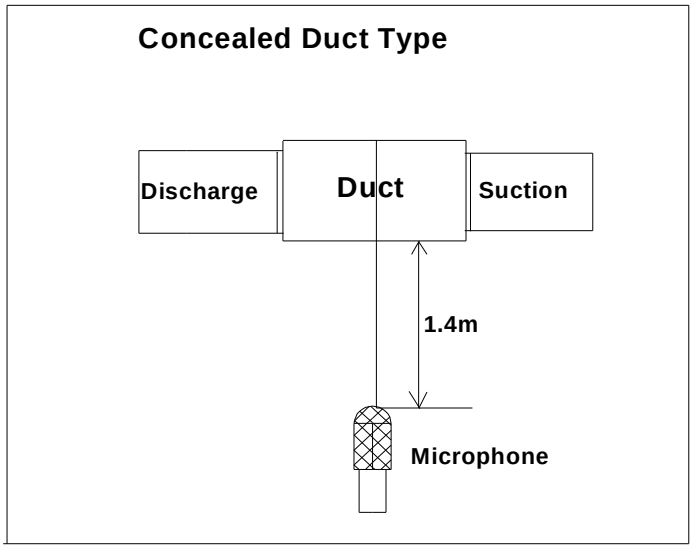


10. Electric Characteristics

Model	Indoor Unit				Power Supply	IFM	
	Hz	Voltage	Min.	Max.	MFA	kW	FLA
MDV-D45T2/CN1	50	220-240V	198V	254V	15A	0.055	0.54
MDV-D56T2/CN1	50	220-240V	198V	254V	15A	0.055	0.54
MDV-D71T2/CN1	50	220-240V	198V	254V	15A	0.074	0.785
MDV-D80T2/CN1	50	220-240V	198V	254V	15A	0.074	0.785
MDV-D90T2/CN1	50	220-240V	198V	254V	15A	0.059	0.475
MDV-D112T2/CN1	50	220-240V	198V	254V	15A	0.059	0.475
MDV-D140T2/CN1	50	220-240V	198V	254V	15A	0.059	0.475

Remark:
MFA: Max. Fuse Amps. (A)
KW: Fan Motor Rated Output (KW)
FLA: Full Load Amps. (A)
IFM: Indoor Fan Motor

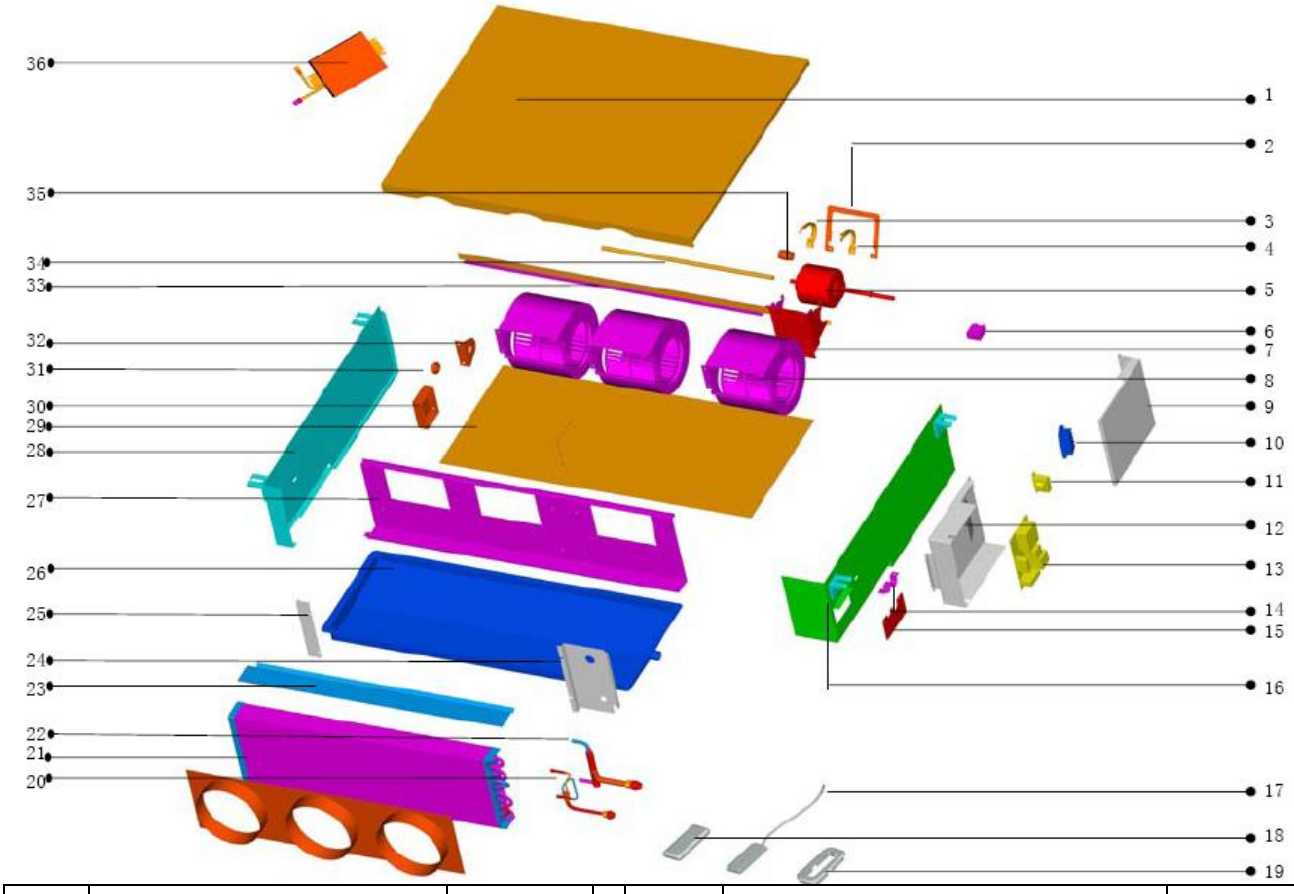
11. Sound Levels



Model	Noise level dB(A)		
	H	M	L
MDV-D45T2/CN1	45	41	38
MDV-D56T2/CN1	45	41	38
MDV-D71T2/CN1	46	44	42
MDV-D80T2/CN1	46	44	42
MDV-D90T2/CN1	47	45	43
MDV-D112T2/CN1	47	45	43
MDV-D140T2/CN1	48	46	44

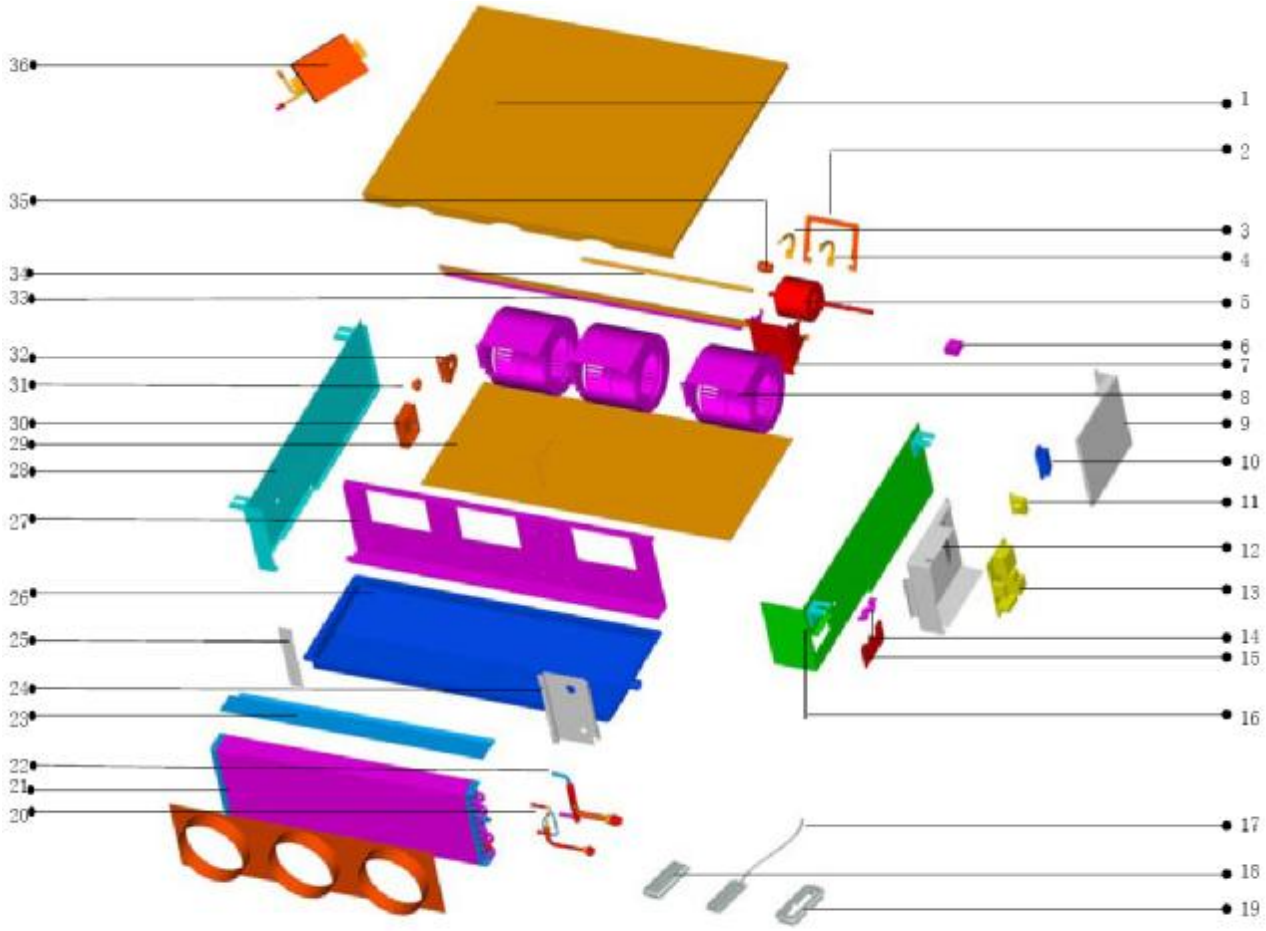
12. Exploded View

MDV-D45T2/CN1、MDV-D56T2/CN1



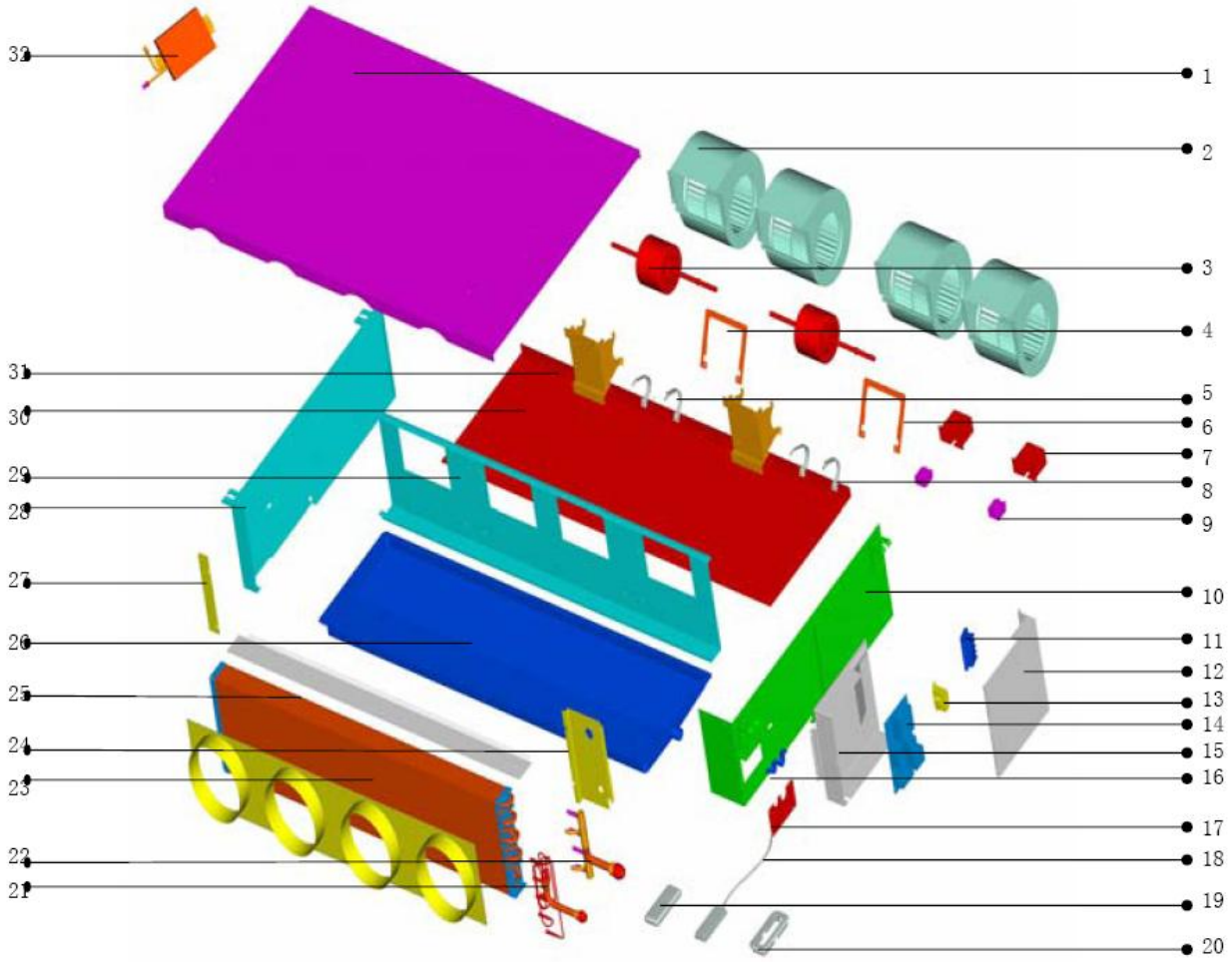
No.	Part Name	Quantity		No.	Part Name	Quantity
1	Base ass'y	1		19	Installation box	1
2	Board	1		20	Input pipe ass'y	1
3	Motor clamp	1		21	Evaporator ass'y	1
4	Motor clamp	1		22	Output pipe ass'y	1
5	Fan motor	1		23	Evaporator lining board	1
6	Motor capacitor	1		24	Evaporator left clapboard ass'y	1
7	Motor bracket	1		25	Evaporator right clapboard ass'y	1
8	Fan ass'y	3		26	Drainage pan ass'y	1
9	E-Part box cover	1		27	Middle beam	1
10	Wire joint	1		28	Right cover ass'y	1
11	Transformer	1		29	Rear cover ass'y	1
12	E-part box	1		30	Bearing seat	1
13	Main control board ass'y	1		31	Bearing	1
14	Pipe clamp board	1		32	Bearing supporting board	1
15	Sealed board ass'y	1		33	Rear beam	1
16	Left clapboard ass'y	1		34	Connecting shaft	1
17	Display board ass'y	1		35	Coupling	1
18	Remote controller	1		36	Electric throttle assembly	1

MDV-D71T2/CN1、MDV-D80T2/CN1



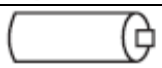
No.	Part Name	Quantity		No.	Part Name	Quantity
1	Base ass'y	1		19	Installation box	1
2	Board	1		20	Input pipe ass'y	1
3	Motor clamp	1		21	Evaporator ass'y	1
4	Motor clamp	1		22	Output pipe ass'y	1
5	Fan motor	1		23	Evaporator lining board	1
6	Capacitor	1		24	Evaporator left clapboard ass'y	1
7	Motor bracket	1		25	Evaporator right clapboard ass'y	1
8	Fan ass'y	3		26	Drainage pan ass'y	1
9	E-Part box cover	1		27	Middle beam	1
10	Wire joint	1		28	Right cover ass'y	1
11	Transformer	1		29	Rear cover ass'y	1
12	E-part box	1		30	Bearing seat	1
13	Main control board ass'y	1		31	Bearing	1
14	Pipe clamp board	1		32	Bearing supporting board	1
15	Sealed board ass'y	1		33	Rear beam	1
16	Left clapboard ass'y	1		34	Connecting shaft	1
17	Display board ass'y	1		35	Coupling	1
18	Remote controller	1		36	Electric throttle assembly	1

MDV-D90T2/CN1、MDV-D112T2/CN1、MDV-D140T2/CN1



No.	Part Name	Quantity		No.	Part Name	Quantity
1	Base ass'y	1		17	Sealed board ass'y	1
2	Fan ass'y	4		18	Display board ass'y	1
3	Motor	2		19	Remote controller	1
4	Board	2		20	Installation box	1
5	Motor clamp	2		21	Input pipe ass'y	1
6	Motor bracket	2		22	Output pipe ass'y	1
7	Capacitor box	2		23	Evaporator ass'y	1
8	Motor clamp	2		24	Evaporator left clapboard ass'y	1
9	Motor capacitor	1		25	Evaporator lining board	1
10	Left clapboard ass'y	1		26	Drainage pan ass'y	1
11	Wire joint	1		27	Evaporator right clapboard ass'y	1
12	E-part box	1		28	Right cover ass'y	1
13	Transformer	1		29	Middle beam	1
14	Main control board ass'y	1		30	Rear cover ass'y	1
15	E-Part box cover	1		31	Rear beam	1
16	Pipe clamp board	1		32	Electric throttle assembly	1

13. Accessories

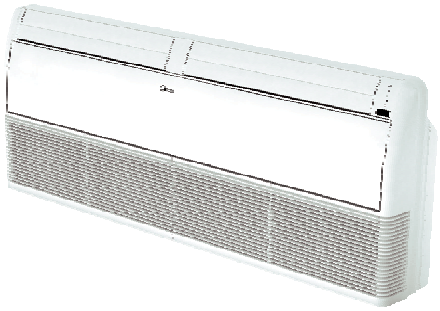
Name of Accessories	Q'ty	Outline	Usage
Installation manual	1	(This manual)	———
Remote controller subassembly	1		Remote control the air-conditioner.
Pipe insulation material	2		Heat insulation
Accessory drain pipe	1		To connect drain pipe
Adhesive tape for seal	1		To connect drain pipe
Remote controller	1		
Frame	1		
Mounting screw(ST2.9x10-C-H)	2		
Alkaline dry batteries(AM4)	2		
Remote controller manual	1		

Ceiling & Floor Type

1. Features 111
2. Specifications 112
3. Dimensions 115
4. Service Space 116
5. Piping Diagrams 116
6. Wiring Diagrams 117
7. Air Velocity and Temperature Distributions 118
8. Capacity Tables 120
9. Electric Characteristics 126
10. Sound Levels 126
11. Exploded View 127
12. Accessories 131

1. Features

1.1. New design, more modern and elegant appearance.



1.2. Convenient installation

--The ceiling type can be easily installed into a corner of the ceiling even if the ceiling is very narrow

--It is especially useful when installation of an air conditioner in the center of the ceiling is impossible due to a structure such as one lighting

1.3. Two direction auto swing (vertical & horizontal) and wide angle air flow

--Air flow directional control minimizes the air resistance and produces wilder air flow to vertical direction.

--The range of horizontal air discharge is widened which secures wider air flow distribution to provide more comfortable air circulation no matter where the unit is set up

1.4. Three level fan speed, more humanism design, meets different air-supply requirement.

1.5. Water proof by utilizing the absorbing plastic film on water collector

1.6. Easy operation. Auto-restart function, remote control and optional wire control method.

1.7. Low noise level plus compact size

--Shape of the blades has been improved to prevent noise caused by turbulence.

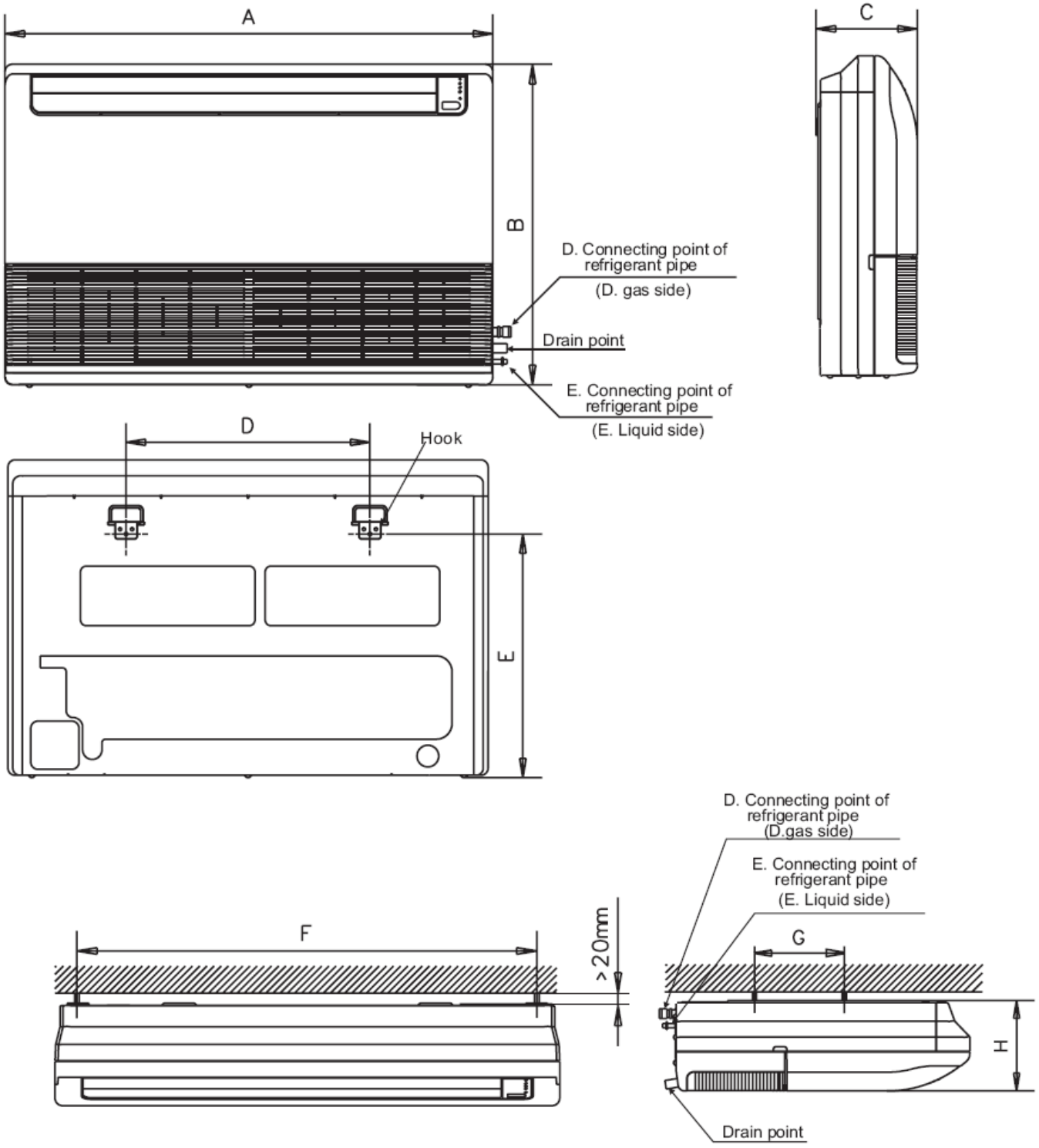
2. Specifications

Sale Model			MDV-D36DL/N1-B	MDV-D45DL/N1-B	MDV-D56DL/N1-B
Power supply		V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50
Cooling	Capacity	kW	3.6	4.5	5.6
	Input	W	120	120	122
	Rated current	A	0.55	0.55	0.55
Heating	Capacity	kW	4.0	5.0	6.3
	Input	W	120	120	122
	Rated current	A	0.55	0.55	0.55
Indoor fan motor	Model		YSK25-6L	YSK55-4L	YSK55-4L
	Type		Ac Motor	Ac Motor	Ac Motor
	Brand		Welling	Welling	Welling
	Input	w	33.4/31.1/29.5	125/105/85	125/105/85
	Capacitor	uF	1.2uF/450V	2UF/450V	2.5UF/450V
	Speed(hi/mi/lo)	r/min	756/666/592	1310/1190/1040	1310/1190/1040
Indoor coil	a.Number of rows		2	3	3
	b.Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	c.Fin spacing	mm	1.8	1.8	1.8
	d.Fin type (code)		Hydrophilic aluminum		
	e.Tube outside dia.and type	mm	Φ9.53	Φ9.53	Φ9.53
			Inner groove tube		
	f.Coil length x height x width	mm	804x44 x254	804x66 x254	804x66 x254
	g.Number of circuits		3	3	3
Indoor air flow (Hi/Mi/Lo)		m^3/h	650/570/500	800/600/500	800/600/500
Sound level (sound pressure)		dB(A)	43/41/38	43/41/38	43/41/38
Indoor unit	Dimension (W x H x D)	mm	990x660x206	990x660x206	990x660x206
	Packing (W x H x D)	mm	1089x744x296	1089x744x296	1089x744x296
	Net/Gross weight	kg	29/35	29/35	29/35
Refrigerant	Type		R410A	R410A	R410A
Design pressure		MPa	4.2/2.5	4.2/2.5	4.2/2.5
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ9.53/Φ16
Connection wiring	Power wiring	mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)		
	Signal wiring	mm^2	3×1.0		
Drainage water pipe diameter		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller R05 (standard)		
Operation temp		℃	17～30		
Application area		m^2	14～24	18～30	22～37

Sale Model				MDV-D71DL/N1-B	MDV-D80DL/N1-B	MDV-D90DL/N1-B
Power supply			V-ph-Hz	220~240-1-50	220~240-1-50	220~240-1-50
Cooling	Capacity		kW	7.1	8.0	9.0
	Input		W	125	130	130
	Rated current		A	0.57	0.6	0.6
Heating	Capacity		kW	8.0	9.0	10.0
	Input		W	125	130	130
	Rated current		A	0.57	0.6	0.6
Indoor fan motor	Model			YSK55-4L	YSK80-4A	YSK80-4A
	Type			Ac Motor	Ac Motor	Ac Motor
	Brand			Welling	Welling	Welling
	Input		w	125/105/85	143/122/110	143/122/110
	Capacitor		uF	2.5UF/450V	3.5UF/450V	3.5UF/450V
	Speed(hi/mi/lo)		r/min	1310/1190/1040	1310/1210/1115	1310/1210/1115
Indoor coil	a.Number of rows			3	3	3
	b.Tube pitch(a)x row pitch(b)		mm	25.4x22	25.4x22	25.4x22
	c.Fin spacing		mm	1.8	1.8	1.8
	d.Fin type (code)			Hydrophilic aluminum		
	e.Tube outside dia.and type		mm	Φ9.53	Φ9.53	Φ9.53
				Inner groove tube		
	f.Coil length x height x width		mm	804x66 x254	1094x66 x254	1094x66 x254
	g.Number of circuits			3	5	5
Indoor air flow (Hi/Mi/Lo)			m^3/h	800/600/500	1200/900/700	1200/900/700
Sound level (sound pressure)			dB(A)	43/41/38	45/43/40	45/43/40
Indoor unit	Dimension (W x H x D)		mm	990x660x206	1280 x 660x206	1280 x 660x206
	Packing (W x H x D)		mm	1089x744x296	1379x744x296	1379x744x296
	Net/Gross weight		kg	29/35	37/42	37/42
Refrigerant	Type			R410A	R410A	R410A
Design pressure			MPa	4.2/2.5	4.2/2.5	4.2/2.5
Refrigerant piping		Liquid side/ Gas side	mm	Φ9.53/Φ16	Φ9.53/Φ16	Φ9.53/Φ16
Connection wiring		Power wiring	mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)		
		Signal wiring	mm^2	3×1.0		
Drainage water pipe dia.			mm	Φ25	Φ25	Φ25
Controller				Wireless remote controller R05 (standard)		
Operation temp			℃	17～30		
Application area			m^2	28～47	32～53	36～60

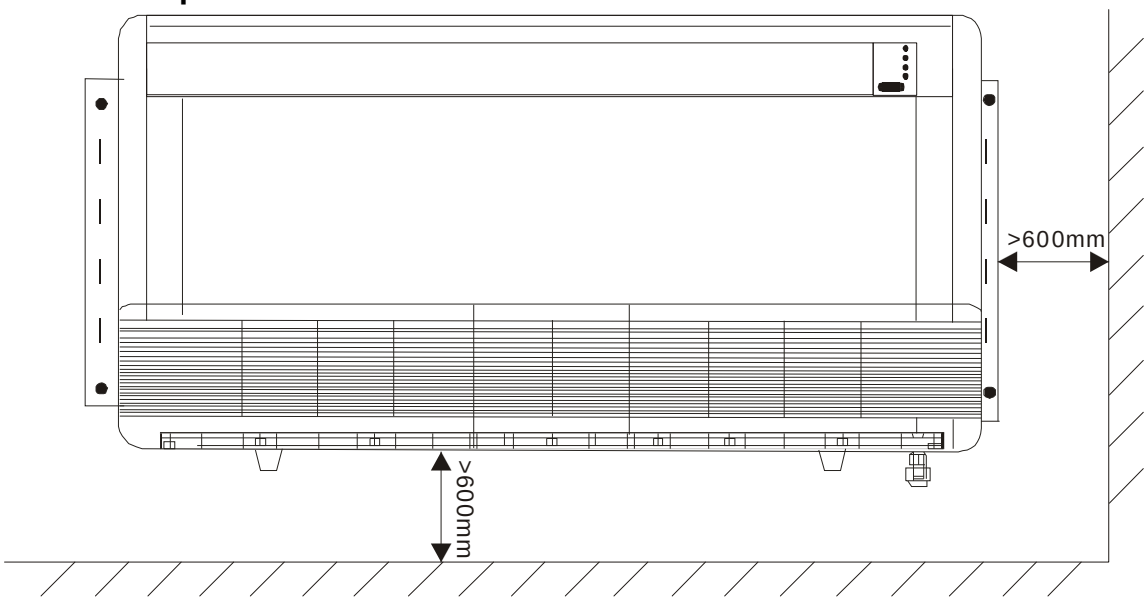
Sale Model			MDV-D112DL/N1-B	MDV-D140DL/N1-B
Power supply		V-ph-Hz	220~240-1-50	220~240-1-50
Cooling	Capacity	kW	11.2	14.0
	Input	W	182	182
	Rated current	A	0.83	0.83
Heating	Capacity	kW	12.5	15.5
	Input	W	182	182
	Rated current	A	0.83	0.83
Indoor fan motor	Model		YSK59-4D x2	YSK59-4D x2
	Type		Ac Motor	Ac Motor
	Brand		Welling	Welling
	Input	w	(89.5/81.5/77.5) x 2	(89.5/81.5/77.5) x 2
	Capacitor	uF	2.5UF/450V x2	2.5UF/450V x2
	Speed(hi/mi/lo)	r/min	1170/1070/995	1170/1070/995
Indoor coil	a.Number of rows		3	3
	b.Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22
	c.Fin spacing	mm	1.8	1.8
	d.Fin type (code)		Hydrophilic aluminum	
	e.Tube outside dia.and type	mm	Φ9.53	Φ9.53
			Inner groove tube	
	f.Coil length x height x width	mm	1360x66 x254	1360x66 x254
	g.Number of circuits		5	5
Indoor air flow (Hi/Mi/Lo)		m^3/h	1980/1860/1730	1980/1860/1730
Sound level (sound pressure)		dB(A)	47/45/42	47/45/42
Indoor unit	Dimension (W x H x D)	mm	1670x680x244	1670x680x244
	Packing (W x H x D)	mm	1764x760x329	1764x760x329
	Net/Gross weight	kg	54/61	54/61
Refrigerant	Type		R410A	R410A
Design pressure		MPa	4.2/2.5	4.2/2.5
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.53/Φ16	Φ9.53/Φ16
Connection wiring	Power wiring	mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)	
	Signal wiring	mm^2	3×1.0	
Drainage water pipe dia.		mm	Φ25	Φ25
Controller			Wireless remote controller R05 (standard)	
Operation temp		℃	17～30	
Application area		m^2	44～75	56～93

3. Dimensions



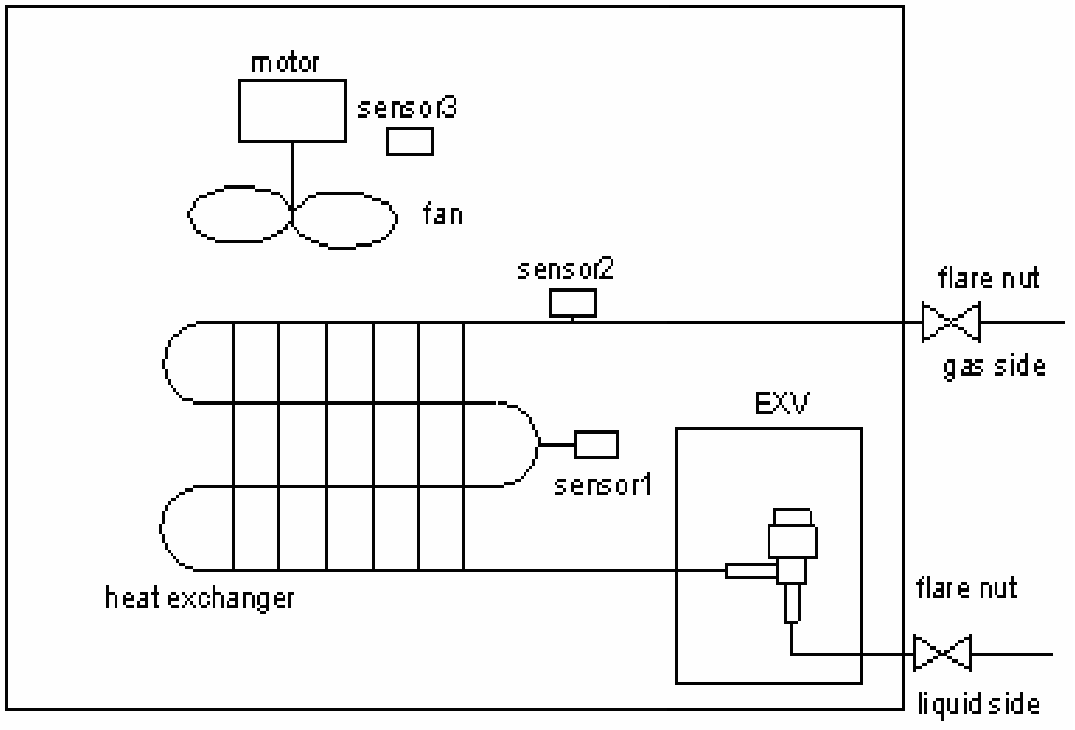
Capacity(W)	A	B	C	D	E	F	G	H
3600-7100	990	660	206	505	506	907	200	203
8000-9000	1280	660	206	795	506	1195	200	203
11200-14000	1670	680	244	1070	450	1542	200	240

4. Service Space



5. Piping Diagrams

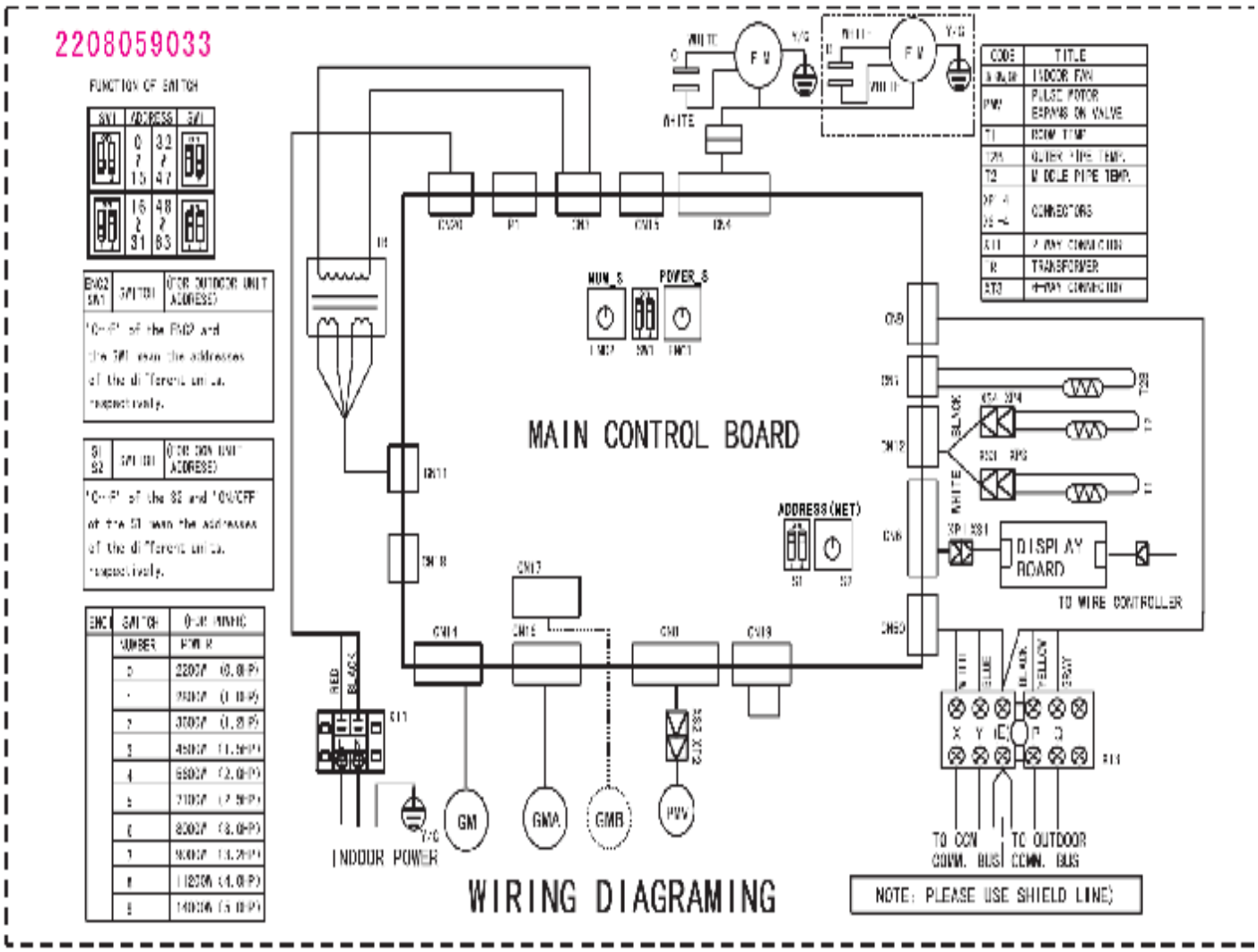
MDV-D36DL/N1-B、MDV-D45DL/N1-B、MDV-D56DL/N1-B、MDV-D71DL/N1-B
MDV-D80DL/N1-B、MDV-D90DL/N1-B、MDV-D112DL/N1-B、MDV-D140DL/N1-B



Sensor1: T2
Sensor2: T2B

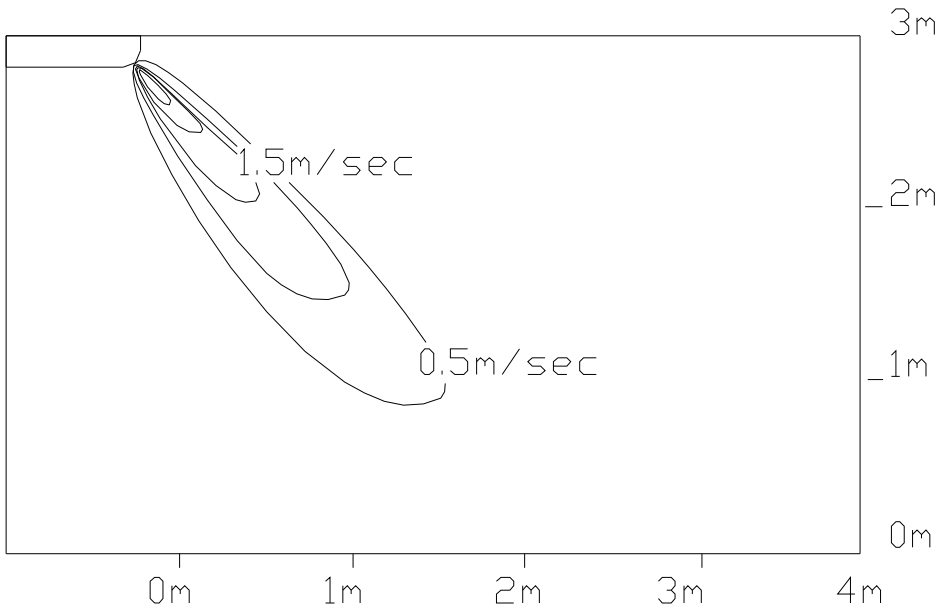
6. Wiring Diagrams

MDV-D36DL/N1-B、MDV-D45DL/N1-B、MDV-D56DL/N1-B、MDV-D71DL/N1-B
MDV-D80DL/N1-B、MDV-D90DL/N1-B、MDV-D112DL/N1-B、MDV-D140DL/N1-B

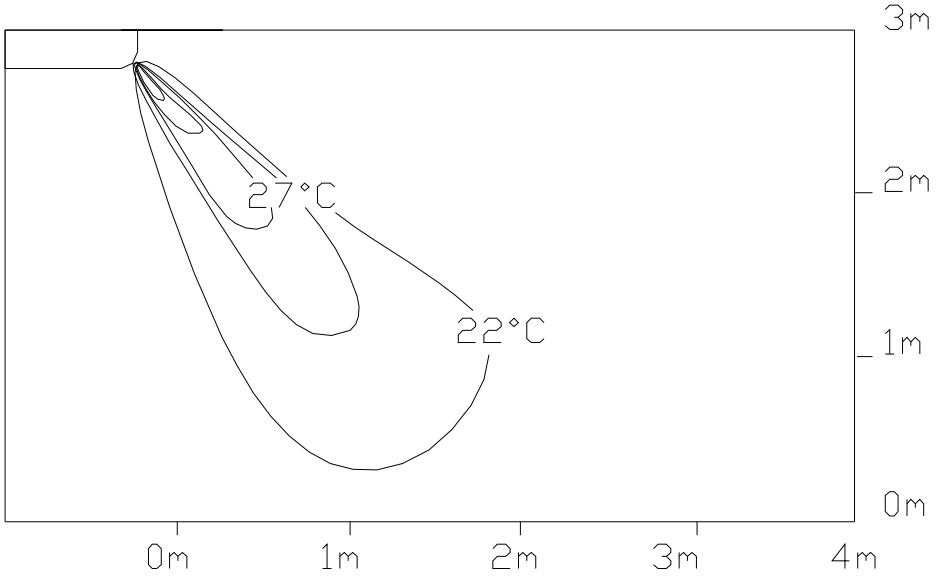


7. Air Velocity and Temperature Distributions
Discharge angle 60° (CEILING)

Airflow velocity

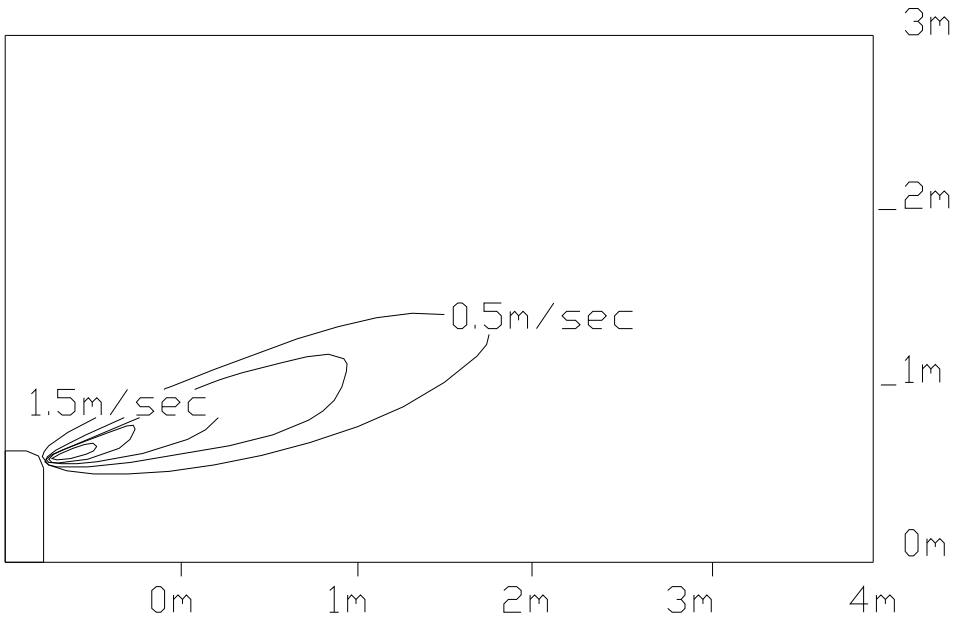


Temperature

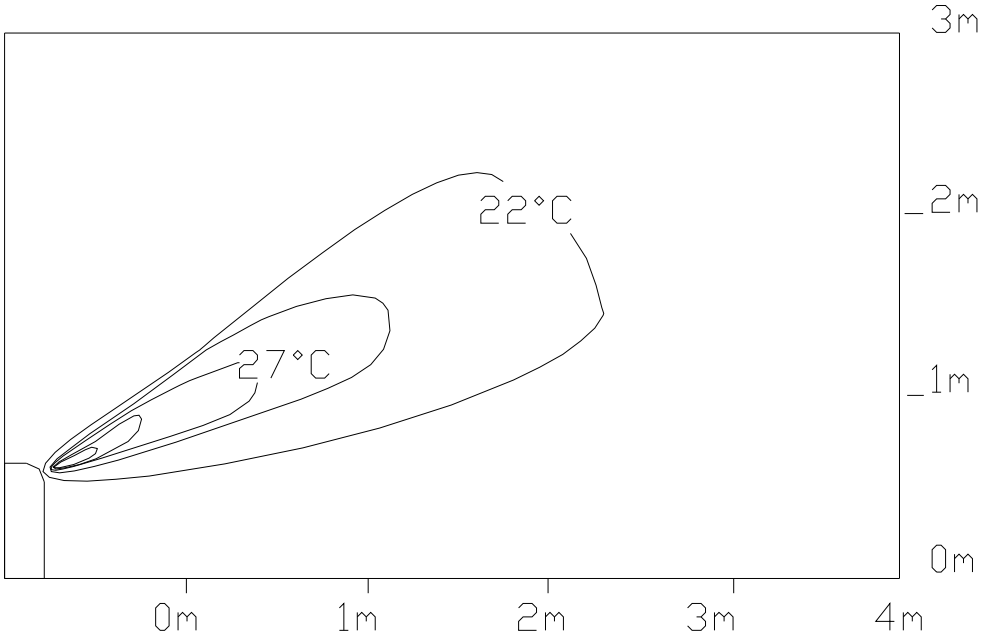


Discharge angle 60°(FLOOR)

Airflow velocity



Temperature



8. Capacity Tables

8.1 Cooling

TH: total capacity **SH**: sensible capacity

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
3.6	10.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	4.1	2.8	4.6	2.7
	12.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	4.1	2.8	4.5	2.7
	14.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	4.1	2.8	4.5	2.7
	16.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	4.1	2.8	4.4	2.6
	18.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	4.1	2.8	4.4	2.6
	20.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	4.1	2.8	4.2	2.6
	21.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	4.1	2.8	4.2	2.6
	23.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	4.1	2.7	4.2	2.6
	25.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	4.0	2.6	4.1	2.5
	27.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	4.0	2.6	4.1	2.5
	29.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	3.9	2.5	4.0	2.4
	31.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	3.9	2.5	4.0	2.4
	33.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.7	2.6	3.9	2.5	3.9	2.3
	35.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.6	2.5	3.7	2.5	3.9	2.3
	37.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.6	2.5	3.7	2.5	3.7	2.3
	39.0	2.4	2.1	2.9	2.4	3.3	2.6	3.5	2.6	3.6	2.5	3.7	2.6	3.7	2.4
4.5	10.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.8	3.3
	12.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.8	3.3
	14.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.7	3.2
	16.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.5	3.1
	18.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.5	3.1
	20.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.4	3.1
	21.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.1	5.3	3.0
	23.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.1	3.1	5.2	3.0
	25.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.1	3.1	5.1	2.9
	27.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	4.9	3.0	5.1	2.9
	29.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	4.9	3.0	5.0	2.9
	31.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.4	5.0	2.9
	33.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.2	3.4	4.8	2.8
	35.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.7	3.3	5.1	3.4	4.7	2.8
	37.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.5	3.2	4.7	3.1	4.7	2.8
	39.0	3.0	2.6	3.6	2.8	4.1	3.1	4.4	3.2	4.5	3.2	4.7	3.1	4.7	2.8
5.6	10.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	12.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	14.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.2	4.1
	16.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	18.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	20.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	21.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.0	4.1
	23.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	25.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.5	4.1	6.8	3.9
	27.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.4	4.0	6.5	3.8
	29.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.3	4.0	6.4	3.7
	31.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.2	3.9	6.3	3.7

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	33.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.0	3.8	6.3	3.7
	35.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.7	6.2	3.6
	37.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.9	6.1	3.5
	39.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	5.7	3.8	5.8	3.8	6.0	3.5
7.1	10.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	9.1	4.8
	12.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	9.0	4.7
	14.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.9	4.7
	16.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.8	4.6
	18.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.5	4.6
	20.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.4	4.5
	21.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.3	4.5
	23.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.2	4.4
	25.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.3	4.9	8.1	4.4
	27.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	8.0	4.8	8.1	4.3
	29.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	7.8	4.7	8.0	4.5
	31.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	7.8	4.7	7.7	4.3
	33.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	7.7	4.6	7.7	4.3
	35.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	7.5	4.5	7.6	4.2
	37.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.4	4.7	7.4	4.4	7.5	4.2
	39.0	4.9	3.7	5.7	4.1	6.7	4.5	7.0	4.6	7.1	4.6	7.3	4.4	7.5	4.2
8.0	10.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	10.3	5.5
	12.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	10.1	5.5
	14.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	10.0	5.4
	16.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.9	5.3
	18.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.6	5.2
	20.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.5	5.1
	21.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.3	5.0
	23.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.2	5.0
	25.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.3	5.4	9.2	4.9
	27.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.3	9.0	5.2	9.1	5.0
	29.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.4	8.8	5.2	9.0	5.0
	31.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.4	8.8	5.2	8.7	4.8
	33.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.4	8.7	5.1	8.7	4.8
	35.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.3	5.4	8.5	5.0	8.5	4.7
	37.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.2	5.3	8.3	5.0	8.5	4.8
	39.0	5.5	4.4	6.5	4.8	7.4	5.2	7.9	5.5	8.0	5.2	8.2	4.9	8.5	4.8
9.0	10.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	11.4	6.4
	12.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	11.3	6.3
	14.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	11.2	6.3
	16.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	11.0	6.2
	18.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	10.7	6.1
	20.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	10.6	6.0
	21.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	10.4	5.9
	23.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	10.3	5.9
	25.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.4	6.4	10.2	5.8
	27.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	10.0	6.2	10.1	5.8

Indoor Unit size (KW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	29.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	9.9	6.1	10.0	5.7
	31.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	9.8	6.1	9.7	5.6
	33.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.4	6.4	9.7	6.0	9.7	5.6
	35.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.3	6.3	9.4	5.8	9.5	5.6
	37.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.1	6.2	9.2	5.7	9.4	5.6
	39.0	6.1	5.2	7.1	5.6	8.2	6.1	8.8	6.2	9.0	6.1	9.2	5.7	9.4	5.6
11.2	10.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	16.1	9.4
	12.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	15.1	8.8
	14.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	14.9	8.6
	16.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	14.7	8.6
	18.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	14.6	8.5
	20.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	14.5	8.4
	21.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.9	8.6	14.4	8.3
	23.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.7	8.5	14.3	8.3
	25.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.6	8.4	14.2	8.2
	27.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.5	8.3	14.0	8.1
	29.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.3	8.3	13.9	8.2
	31.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.2	8.2	13.3	7.9
	33.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.4	8.4	13.1	8.1	13.1	7.7
	35.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.3	8.4	13.0	8.1	12.9	7.6
	37.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	12.2	8.3	12.9	8.0	12.6	7.5
	39.0	8.1	6.7	9.5	7.4	11.0	8.0	11.7	8.2	11.9	8.1	12.8	7.9	12.4	7.4
14.00	10.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	18.2	10.2
	12.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	17.9	10.0
	14.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	17.8	10.0
	16.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	17.5	9.8
	18.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	17.1	9.6
	20.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	16.8	9.4
	21.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.7	10.2	16.5	9.3
	23.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.4	10.2	16.4	9.2
	25.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.2	10.1	16.2	9.1
	27.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.1	10.0	16.1	9.2
	29.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	16.0	9.9	16.0	9.1
	31.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	15.8	9.8	15.4	8.8
	33.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.8	9.8	15.7	9.7	15.4	8.8
	35.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.7	9.7	15.1	9.4	15.1	8.8
	37.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.6	9.6	15.1	9.4	15.0	8.7
	39.0	9.7	7.8	11.3	8.6	13.2	9.6	14.0	9.8	14.3	9.4	14.6	9.2	15.0	8.8

8.2 Heating

TC: total capacity

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16	18	20	21	22	24
			TC	TC	TC	TC	TC	TC
	WB	DB	kW	kW	kW	kW	kW	kW
3.6	-15.00	-14.70	2.52	2.52	2.52	2.52	2.52	2.52
	-13.00	-12.60	2.68	2.68	2.68	2.68	2.68	2.68
	-11.00	-10.50	2.80	2.80	2.80	2.80	2.80	2.80
	-10.00	-9.50	2.92	2.92	2.92	2.92	2.92	2.92
	-9.10	-8.50	3.00	3.00	3.00	3.00	3.00	3.00
	-7.60	-7.00	3.04	3.04	3.04	3.04	3.04	3.04
	-5.60	-5.00	3.16	3.16	3.16	3.16	3.16	3.16
	-3.70	-3.00	3.32	3.32	3.32	3.32	3.32	3.32
	-0.70	0.00	3.56	3.56	3.56	3.56	3.56	3.36
	2.20	3.00	3.76	3.76	3.76	3.76	3.68	3.36
	4.10	5.00	3.88	3.88	3.88	3.88	3.68	3.36
	6.00	7.00	4.00	4.00	4.00	3.88	3.68	3.36
	7.90	9.00	4.12	4.12	4.00	3.88	3.68	3.36
	9.80	11.00	4.24	4.24	4.00	3.88	3.68	3.36
	11.80	13.00	4.40	4.32	4.00	3.88	3.68	3.36
	13.70	15.00	4.52	4.32	4.00	3.88	3.68	3.36
4.5	-15.00	-14.70	3.15	3.15	3.15	3.15	3.15	3.15
	-13.00	-12.60	3.35	3.35	3.35	3.35	3.35	3.35
	-11.00	-10.50	3.50	3.50	3.50	3.50	3.50	3.50
	-10.00	-9.50	3.65	3.65	3.65	3.65	3.65	3.65
	-9.10	-8.50	3.75	3.75	3.75	3.75	3.75	3.75
	-7.60	-7.00	3.80	3.80	3.80	3.80	3.80	3.80
	-5.60	-5.00	3.95	3.95	3.95	3.95	3.95	3.95
	-3.70	-3.00	4.15	4.15	4.15	4.15	4.15	4.15
	-0.70	0.00	4.45	4.45	4.45	4.45	4.45	4.20
	2.20	3.00	4.70	4.70	4.70	4.70	4.60	4.20
	4.10	5.00	4.85	4.85	4.85	4.85	4.60	4.20
	6.00	7.00	5.00	5.00	5.00	4.85	4.60	4.20
	7.90	9.00	5.15	5.15	5.00	4.85	4.60	4.20
	9.80	11.00	5.30	5.30	5.00	4.85	4.60	4.20
	11.80	13.00	5.50	5.40	5.00	4.85	4.60	4.20
	13.70	15.00	5.65	5.40	5.00	4.85	4.60	4.20
5.6	-15.00	-14.70	3.97	3.97	3.97	3.97	3.97	3.97
	-13.00	-12.60	4.22	4.22	4.22	4.22	4.22	4.22
	-11.00	-10.50	4.41	4.41	4.41	4.41	4.41	4.41
	-10.00	-9.50	4.60	4.60	4.60	4.60	4.60	4.60
	-9.10	-8.50	4.73	4.73	4.73	4.73	4.73	4.73
	-7.60	-7.00	4.79	4.79	4.79	4.79	4.79	4.79
	-5.60	-5.00	4.98	4.98	4.98	4.98	4.98	4.98
	-3.70	-3.00	5.23	5.23	5.23	5.23	5.23	5.23
	-0.70	0.00	5.61	5.61	5.61	5.61	5.61	5.29
	2.20	3.00	5.92	5.92	5.92	5.92	5.80	5.29
	4.10	5.00	6.11	6.11	6.11	6.11	5.80	5.29
	6.00	7.00	6.30	6.30	6.30	6.11	5.80	5.29
	7.90	9.00	6.49	6.49	6.30	6.11	5.80	5.29

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16	18	20	21	22	24
			TC	TC	TC	TC	TC	TC
	WB	DB	kW	kW	kW	kW	kW	kW
	9.80	11.00	6.68	6.68	6.30	6.11	5.80	5.29
	11.80	13.00	6.93	6.80	6.30	6.11	5.80	5.29
	13.70	15.00	7.12	6.80	6.30	6.11	5.80	5.29
7.1	-15.00	-14.70	5.04	5.04	5.04	5.04	5.04	5.04
	-13.00	-12.60	5.36	5.36	5.36	5.36	5.36	5.36
	-11.00	-10.50	5.60	5.60	5.60	5.60	5.60	5.60
	-10.00	-9.50	5.84	5.84	5.84	5.84	5.84	5.84
	-9.10	-8.50	6.00	6.00	6.00	6.00	6.00	6.00
	-7.60	-7.00	6.08	6.08	6.08	6.08	6.08	6.08
	-5.60	-5.00	6.32	6.32	6.32	6.32	6.32	6.32
	-3.70	-3.00	6.64	6.64	6.64	6.64	6.64	6.64
	-0.70	0.00	7.12	7.12	7.12	7.12	7.12	6.72
	2.20	3.00	7.52	7.52	7.52	7.52	7.36	6.72
	4.10	5.00	7.76	7.76	7.76	7.76	7.36	6.72
	6.00	7.00	8.00	8.00	8.00	7.76	7.36	6.72
	7.90	9.00	8.24	8.24	8.00	7.76	7.36	6.72
	9.80	11.00	8.48	8.48	8.00	7.76	7.36	6.72
	11.80	13.00	8.80	8.64	8.00	7.76	7.36	6.72
	13.70	15.00	9.04	8.64	8.00	7.76	7.36	6.72
8.0	-15	-14.7	5.67	5.67	5.67	5.67	5.67	5.67
	-13	-12.6	6.03	6.03	6.03	6.03	6.03	6.03
	-11	-10.5	6.30	6.30	6.30	6.30	6.30	6.30
	-10	-9.5	6.57	6.57	6.57	6.57	6.57	6.57
	-9.1	-8.5	6.75	6.75	6.75	6.75	6.75	6.75
	-7.6	-7	6.84	6.84	6.84	6.84	6.84	6.84
	-5.6	-5	7.11	7.11	7.11	7.11	7.11	7.11
	-3.7	-3	7.47	7.47	7.47	7.47	7.47	7.47
	-0.7	0	8.01	8.01	8.01	8.01	8.01	7.56
	2.2	3	8.46	8.46	8.46	8.46	8.28	7.56
	4.1	5	8.73	8.73	8.73	8.73	8.28	7.56
	6	7	9.00	9.00	9.00	8.73	8.28	7.56
	7.9	9	9.27	9.27	9.00	8.73	8.28	7.56
	9.8	11	9.54	9.54	9.00	8.73	8.28	7.56
	11.8	13	9.90	9.72	9.00	8.73	8.28	7.56
	13.7	15	10.17	9.72	9.00	8.73	8.28	7.56
9.0	-15	-14.7	6.30	6.30	6.30	6.30	6.30	6.30
	-13	-12.6	6.70	6.70	6.70	6.70	6.70	6.70
	-11	-10.5	7.00	7.00	7.00	7.00	7.00	7.00
	-10	-9.5	7.30	7.30	7.30	7.30	7.30	7.30
	-9.1	-8.5	7.50	7.50	7.50	7.50	7.50	7.50
	-7.6	-7	7.60	7.60	7.60	7.60	7.60	7.60
	-5.6	-5	7.90	7.90	7.90	7.90	7.90	7.90
	-3.7	-3	8.30	8.30	8.30	8.30	8.30	8.30
	-0.7	0	8.90	8.90	8.90	8.90	8.90	8.40
	2.2	3	9.40	9.40	9.40	9.40	9.20	8.40
	4.1	5	9.70	9.70	9.70	9.70	9.20	8.40

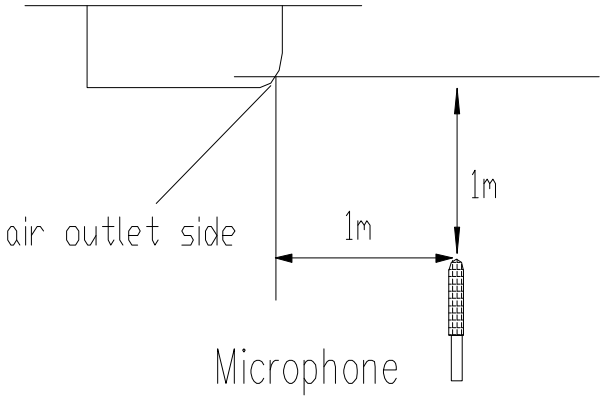
Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16	18	20	21	22	24
			TC	TC	TC	TC	TC	TC
	WB	DB	kW	kW	kW	kW	kW	kW
	6	7	10.00	10.00	10.00	9.70	9.20	8.40
	7.9	9	10.30	10.30	10.00	9.70	9.20	8.40
	9.8	11	10.60	10.60	10.00	9.70	9.20	8.40
	11.8	13	11.00	10.80	10.00	9.70	9.20	8.40
	13.7	15	11.30	10.80	10.00	9.70	9.20	8.40
11.2	-15	-14.7	7.88	7.88	7.88	7.88	7.88	7.88
	-13	-12.6	8.38	8.38	8.38	8.38	8.38	8.38
	-11	-10.5	8.75	8.75	8.75	8.75	8.75	8.75
	-10	-9.5	9.13	9.13	9.13	9.13	9.13	9.13
	-9.1	-8.5	9.38	9.38	9.38	9.38	9.38	9.38
	-7.6	-7	9.50	9.50	9.50	9.50	9.50	9.50
	-5.6	-5	9.88	9.88	9.88	9.88	9.88	9.88
	-3.7	-3	10.38	10.38	10.38	10.38	10.38	10.38
	-0.7	0	11.13	11.13	11.13	11.13	11.13	10.50
	2.2	3	11.75	11.75	11.75	11.75	11.50	10.50
	4.1	5	12.13	12.13	12.13	12.13	11.50	10.50
	6	7	12.50	12.50	12.50	12.13	11.50	10.50
	7.9	9	12.88	12.88	12.50	12.13	11.50	10.50
	9.8	11	13.25	13.25	12.50	12.13	11.50	10.50
	11.8	13	13.75	13.50	12.50	12.13	11.50	10.50
	13.7	15	14.13	13.50	12.50	12.13	11.50	10.50
14.0	-15	-14.7	9.77	9.77	9.77	9.77	9.77	9.77
	-13	-12.6	10.39	10.39	10.39	10.39	10.39	10.39
	-11	-10.5	10.85	10.85	10.85	10.85	10.85	10.85
	-10	-9.5	11.32	11.32	11.32	11.32	11.32	11.32
	-9.1	-8.5	11.63	11.63	11.63	11.63	11.63	11.63
	-7.6	-7	11.78	11.78	11.78	11.78	11.78	11.78
	-5.6	-5	12.25	12.25	12.25	12.25	12.25	12.25
	-3.7	-3	12.87	12.87	12.87	12.87	12.87	12.87
	-0.7	0	13.80	13.80	13.80	13.80	13.80	13.02
	2.2	3	14.57	14.57	14.57	14.57	14.26	13.02
	4.1	5	15.04	15.04	15.04	15.04	14.26	13.02
	6	7	15.50	15.50	15.50	15.04	14.26	13.02
	7.9	9	15.97	15.97	15.50	15.04	14.26	13.02
	9.8	11	16.43	16.43	15.50	15.04	14.26	13.02
	11.8	13	17.05	16.74	15.50	15.04	14.26	13.02
	13.7	15	17.52	16.74	15.50	15.04	14.26	13.02

9. Electric Characteristics

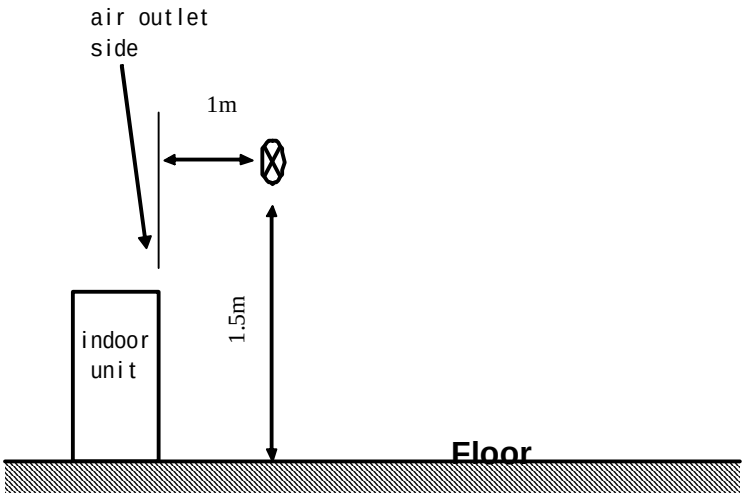
Model	Indoor Unit				Power Supply	IFM	
	Hz	Voltage	Min	Max	MFA	kW	FLA
MDV-D36DL/N1-B	50	220-240V	198	254	15	0.025	0.15
MDV-D45DL/N1-B	50	220-240V	198	254	15	0.055	0.57
MDV-D56DL/N1-B	50	220-240V	198	254	15	0.055	0.57
MDV-D71DL/N1-B	50	220-240V	198	254	15	0.055	0.57
MDV-D80DL/N1-B	50	220-240V	198	254	15	0.08	0.63
MDV-D90DL/N1-B	50	220-240V	198	254	15	0.08	0.63
MDV-D112DL/N1-B	50	220-240V	198	254	15	0.059	0.39
MDV-D140DL/N1-B	50	220-240V	198	254	15	0.059	0.39

Remark:
MFA: Max. Fuse Amps. (A)
KW: Fan Motor Rated Output (KW)
FLA: Full Load Amps. (A)
IFM: Indoor Fan Motor

10. Sound Levels



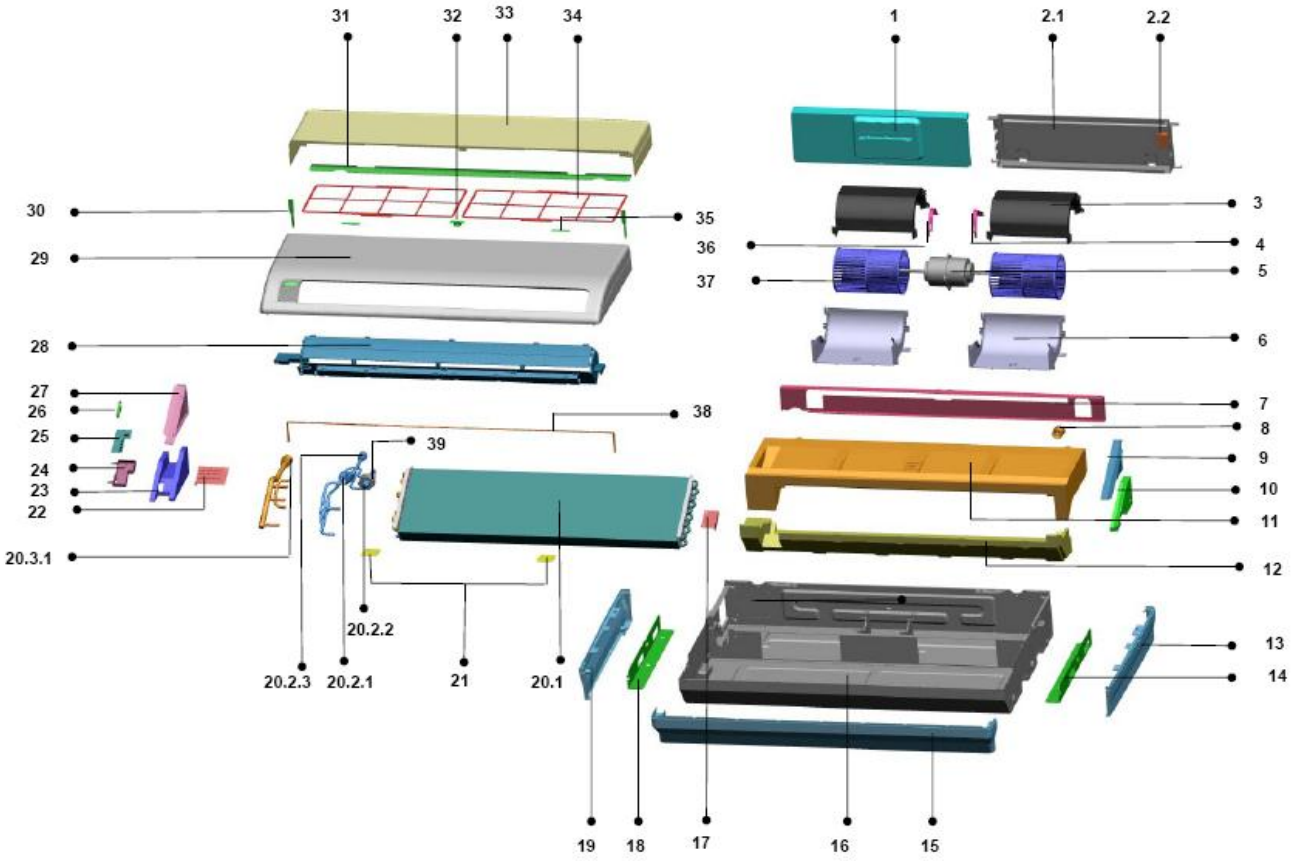
Ceiling



Model	Noise level dB(A)		
	H	M	L
MDV-D36DL/N1-B	43	41	38
MDV-D45DL/N1-B	43	41	38
MDV-D56DL/N1-B	43	41	38
MDV-D71DL/N1-B	43	41	38
MDV-D80DL/N1-B	45	43	40
MDV-D90DL/N1-B	45	43	40
MDV-D112DL/N1-B	47	45	42
MDV-D140DL/N1-B	47	45	42

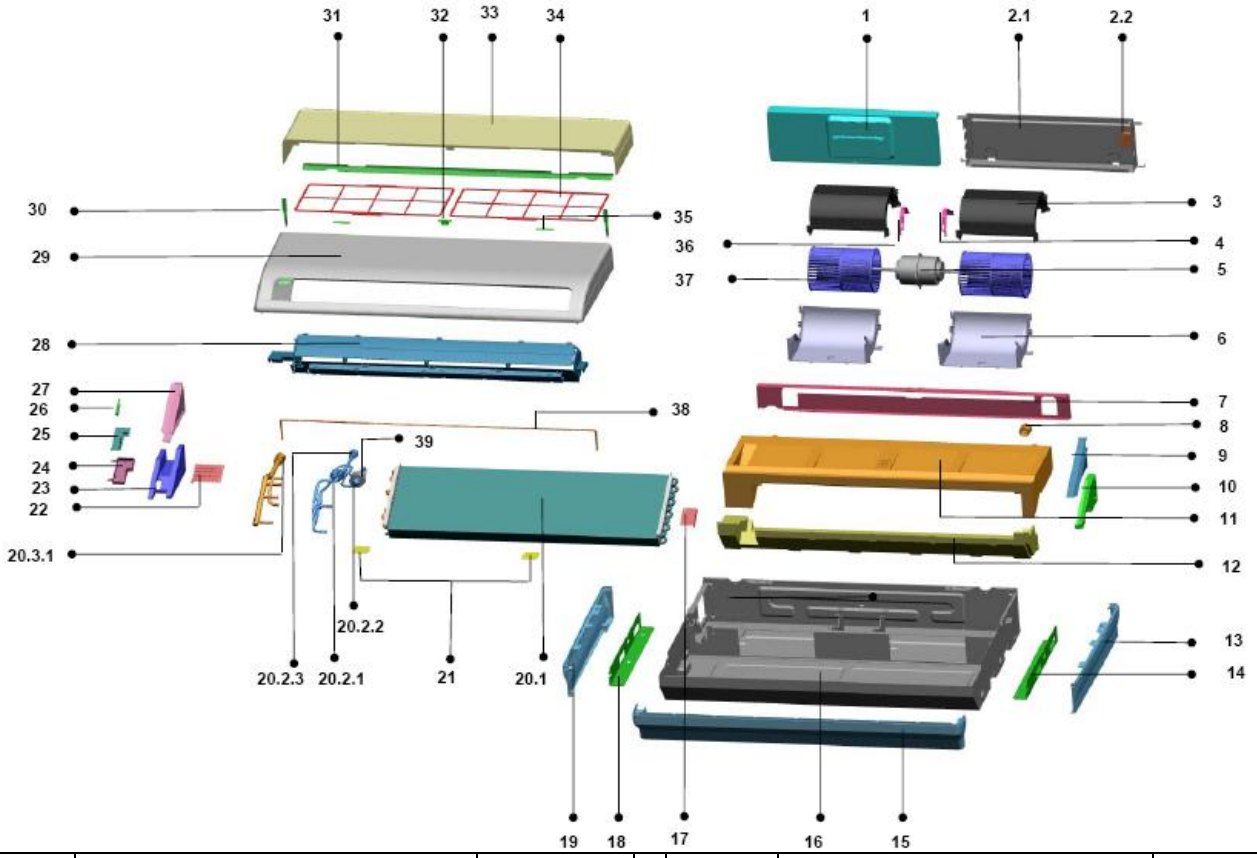
11. Exploded View

MDV-D36DL/N1-B



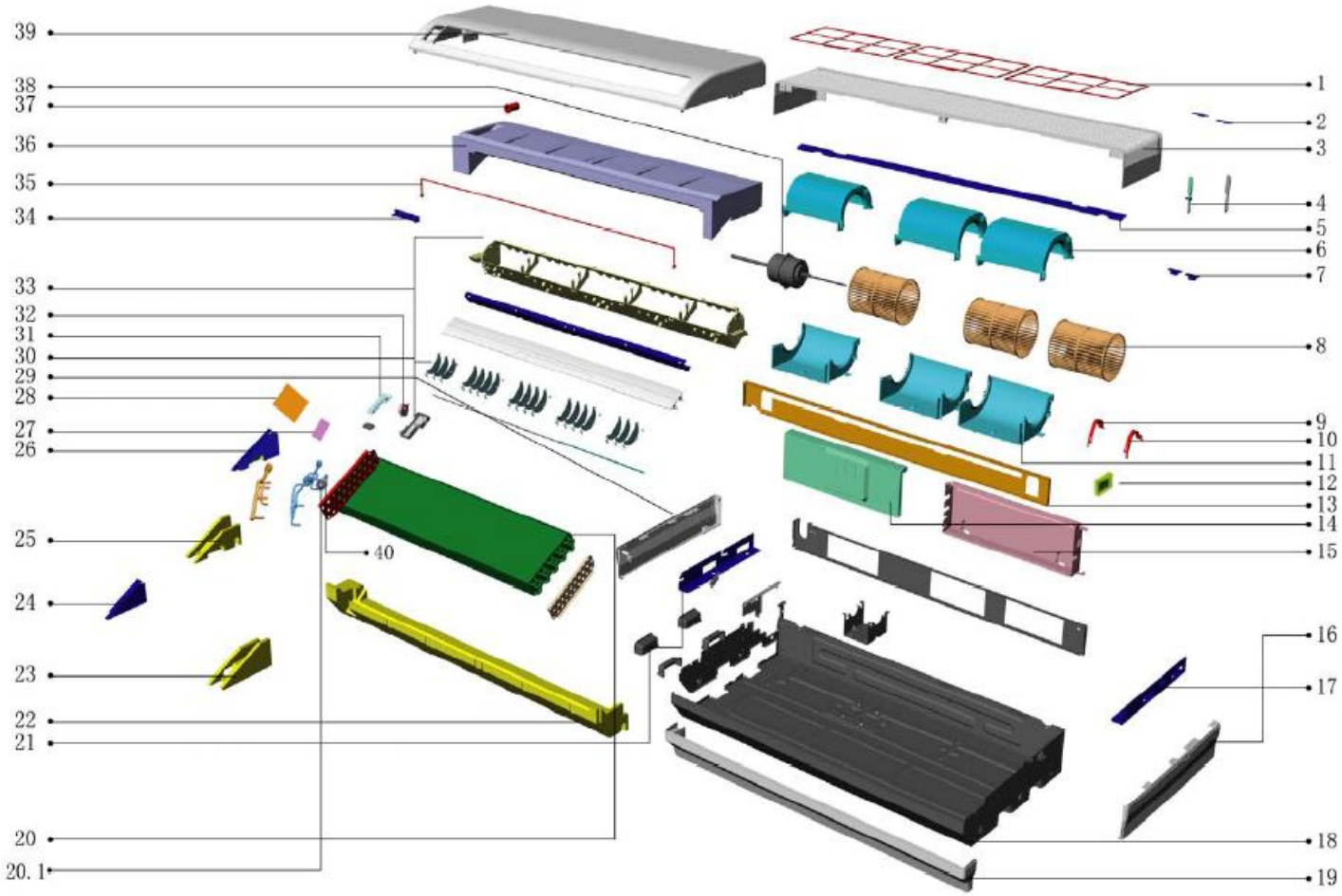
No.	Part Name	Quantity	No.	Part Name	Quantity
1	E-part box cover	1	20.3	Evaporator output pipe ass'y	1
2	E-part box ass'y	1	20.3.1	Copper nut	1
2.1	E-Parts box	1	21	Installation clamp	2
2.2	Motor capacitor	1	22	Evaporator left clapboard	1
2.3	Main controller ass'y	1	23	Foam ass'y	1
3	Volute shell	2	24	Display panel box	1
4	Motor clamp	1	25	Display board ass'y	1
5	Motor	1	26	Manual button	1
6	Volute shell	2	27	Evaporator Left support	1
7	Middle beam	1	28	Air outlet ass'y	1
8	Plastic cover	1	28.1	Stepping motor	1
9	Support board	1	28.2	Stepping motor(vertical)	1
10	Foam ass'y	1	29	Panel ass'y	1
11	Drainage pan ass'y	1	30	Grille clamp	2
12	Foam ass'y	1	31	Grille strengthening rib	1
13	Cover	1	32	Grille lock	1
14	Installation board	1	33	Grille	1
15	Base ass'y	1	34	Filter	2
16	Rear cover	1	35	Grille clamp	2
17	Evaporator right clapboard	1	36	Motor clamp	1
18	Installation board	1	37	Plastic fan	2
19	Left cover	1	38	Drainage pan holder	1
20	Evaporator ass'y	1	39	EEV solenoid	1
20.1	Evaporator	1	40	Remote controller	1
20.2	Evaporator input pipe ass'y	1	41	Installation bracket	1
20.2.1	Strainer	2	42	Room temp sensor ass'y	1
20.2.2	Electronic expansion valve	1	43	Temperature sensor ass'y	1
20.2.3	Copper nut	1	44	Temperature sensor ass'y	1

MDV-D45DL/N1-B、MDV-D56DL/N1-B、MDV-D71DL/N1-B



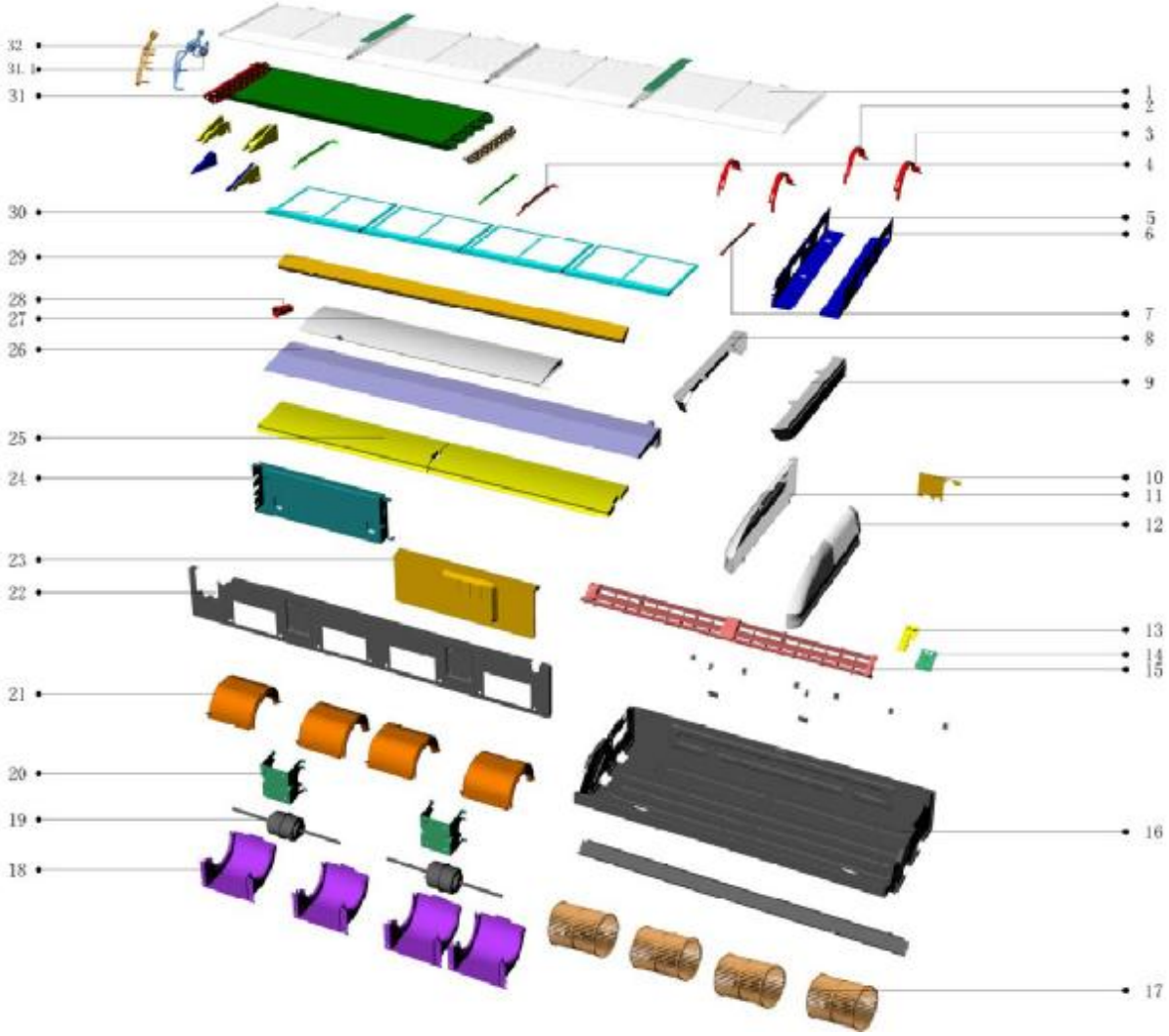
No.	Part Name	Quantity	No.	Part Name	Quantity
1	E-part box cover	1	20.3	Evaporator output pipe ass'y	1
2	E-part box ass'y	1	20.3.1	Copper nut	1
2.1	E-Parts box	1	21	Installation clamp	2
2.2	Motor capacitor	1	22	Evaporator left clapboard	1
2.3	Main controller ass'y	1	23	Foam ass'y	1
3	Volute shell	2	24	Display panel box	1
4	Motor clamp	1	25	Display board ass'y	1
5	Motor	1	26	Manual button	1
6	Volute shell	2	27	Evaporator Left support	1
7	Middle beam	1	28	Air outlet ass'y	1
8	Plastic cover	1	28.1	Stepping motor	1
9	Support board	1	28.2	Stepping motor(vertical)	1
10	Foam ass'y	1	29	Panel ass'y	1
11	Drainage pan ass'y	1	30	Grille clamp	2
12	Foam ass'y	1	31	Grille strengthening rib	1
13	Cover	1	32	Grille lock	1
14	Installation board	1	33	Grille	1
15	Base ass'y	1	34	Filter	2
16	Rear cover	1	35	Grille clamp	2
17	Evaporator right clapboard	1	36	Motor clamp	1
18	Installation board	1	37	Plastic fan	2
19	Left cover	1	38	Drainage pan holder	1
20	Evaporator ass'y	1	39	EEV solenoid	1
20.1	Evaporator	1	40	Remote controller	1
20.2	Evaporator input pipe ass'y	1	41	Installation bracket	1
20.2.1	Strainer	2	42	Room temp sensor ass'y	1
20.2.2	Electronic expansion valve	1	43	Temperature sensor ass'y	1
20.2.3	Copper nut	1			

MDV-D80DL/N1-B、MDV-D90DL/N1-B



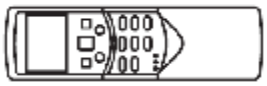
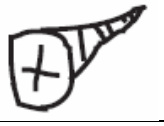
No.	Part Name	Quantity		No.	Part Name	Quantity
1	Filter	3		21	Installation board	1
2	Grille clamp	2		22	Foam ass'y	1
3	Grille	1		23	Foam ass'y	1
4	Grille clamp	2		24	Evaporator Left support	1
5	Grille strengthening rib	1		25	Foam ass'y	1
6	Volute shell	3		26	Support board	1
7	Grille lock	2		27	Evaporator right clapboard	1
8	Plastic fan	3		28	Evaporator left clapboard	1
9	Motor clamp	1		29	Cover	1
10	Motor clamp	1		30	Display panel box	1
11	Volute shell	3		31	Display board ass'y	1
12	Board	1		32	Manual button	1
13	Middle beam	1		33	Air outlet ass'y	1
14	E-part box cover	1		34	Foam	1
15	E-part box ass'y	1		35	Drainage pan holder	1
16	Left cover	1		36	Drainage pan ass'y	1
17	Installation board	1		37	Plastic cover	1
18	Base ass'y	1		38	Motor	1
19	Rear cover	1		39	Panel ass'y	1
20	Evaporator ass'y	1		40	EEV solenoid	1
20.1	Electronic expansion valve	1				

MDV-D112DL/N1-B、MDV-D140DL/N1-B



No.	Part Name	Quantity		No.	Part Name	Quantity
1	Grille ass'y	2		18	Volute shell	4
2	Motor clamp	2		19	Motor	2
3	Motor clamp	2		20	Motor bracket	2
4	Filter bracket	2		21	Volute shell	4
5	Installation board	1		22	Middle beam	1
6	Installation board	1		23	E-part box cover	1
7	Filter bracket	2		24	E-part box ass'y	1
8	Sealed board	1		25	Foam	2
9	Sealed board	1		26	Top cover ass'y	1
10	Pipe clamp board	1		27	Drainage pan ass'y	1
11	Cover	1		28	Plastic cover	1
12	Left cover	1		29	Foam	2
13	Display board ass'y	1		30	Filter	4
14	Display installation box	1		31	Evaporator ass'y	1
15	Air outlet ass'y	1		31.1	Electronic expansion valve	1
16	Base ass'y	1		32	EEV solenoid	1
17	Plastic fan	4				

12. Accessories

Name of Accessories	Q'ty	Outline	Usage
Owner's manual	1		
Installation manual	1	This manual)	
Hook	2		For wall mounting installation
Hanging arm	2		For ceiling installation
Remote controller	1		
Frame	1		
Mounting screw(ST2.9x10-C-H)	2		
Alkaline dry batteries(AM4)	2		

Wall-mounted Type

1. Features....133
2. Specifications....134
3. Dimension....136
4. Piping diagrams....137
5. Wiring diagrams....137
6. Capacity tables....139
7. Velocity distribution....143
8. Electric characteristics....143
9. Sound level....143
10. Exploded view....144

1. Features

1. Easy and flexible installation, which can satisfy the different space demands
2. Air cleaning equipment and the high efficiency filter, keep the air fresh
3. Low noise, creates quite and comfortable environment
4. The optimization system designed and evaporator employs a multi-bend structure which enlarges the heat exchange surface, more efficient.
5. Trapezium inner groove copper pipe and hydrophilic aluminum foil make the heat exchange more sufficient.
6. Supply air freely: cool air flow up, warm air flow down, fast and symmetrical adjust temperature, don't blow people.
7. The direction of up and down air flow can be controlled by remote controller, the direction of left and right air flow can adjust, achieve solid circle supply air.
8. Adopt cross fan and optimization wind path design, supply air is strong and quiet.

2. Specifications

Model			MDV-D22G/N1-E1	MDV-D28G/N1-E1	MDV-D36G/N1-E1	MDV-D45G/N1-E1	MDV-D56G/N1-E1
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz				
Cooling	Capacity	kW	2.2	2.8	3.6	4.5	5.6
	Input	W	40	40	40	50	50
	Rated current	A	0.19	0.19	0.19	0.23	0.23
Heating	Capacity	kW	2.6	3.2	4.0	5.0	6.3
	Input	W	40	40	40	50	50
	Rated current	A	0.19	0.19	0.19	0.23	0.23
Indoor fan motor	Model		RPS13D	RPS13D	RPS13D	RPS28D	RPS28D
	Type		AC motor	AC motor	AC motor	AC motor	AC motor
	Brand		Weilling	Weilling	Weilling	Weilling	Weilling
	Input	W	49/38/30	49/38/30	49/38/30	50.5/44.5/40.5	50.5/44.5/40.5
	Capacitor	uF	1.5	1.5	1.5	1.5	1.5
	Speed (hi/mid/lo)	r/min	1180/1000/850	1180/1000/850	1180/1000/850	1180/1080/800	1180/1080/800
Indoor coil	Number of rows		2	2	2	2	2
	Tube pitch(a)x row pitch(b)	mm	21 x13.37	21 x13.37	21 x13.37	21 x13.37	21 x13.37
	Fin spacing	mm	1.3	1.3	1.3	1.3	1.3
	Fin type		Hydrophilic Aluminium				
	Tube outside dia. and type	mm	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube
	Coil length x height x width	mm	637×26.7×263.5	637×26.7×263.5	637×26.7×263.5	637×26.7×263.5	637×26.7×263.5
	Number of circuits		2	2	2	4	4
Indoor air flow (H/M/L)		m^3/h	520/480/430	520/480/430	585/520/480	860/755/630	925/860/755
Indoor noise level (Hi/Mid/Lo)		dB(A)	40/37/34	40/37/34	40/37/34	43/40/37	43/40/37
Indoor unit	Dimension (WxHxD)	mm	786X198X264	786X198X264	786X198X264	914X220X289	914X220X289
	Packing (WxHxD)	mm	875X290X445	875X290X445	875X290X445	1015X295X465	1015X295X465
	Net/Gross weight	kg	11/14	11/14	11/14	15/17	15/17
Refrigerant type			R410A	R410A	R410A	R410A	R410A
Throttle			Electric expansive valve				
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Connecting wiring	Power wiring	$Nb×mm^2$	3×2.5(L≤20m); 3×3.5(L≤50m)				
	Signal wiring	$Nb×mm^2$	3×1.0	3×1.0	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ15	Φ15	Φ15	Φ15	Φ15
Controller			Wireless remote controller (R51/E) (Standard)				
Operation temp		℃	Cooling: ≥17℃; Heating: ≤30℃				
Application area		m^2	7-22	9-28	12-36	15-45	18-56

Notes: 1. Nominal cooling capacities are based on the following conditions:
indoor temperature : 27°CDB,19°CWB,outdoor temperature:35°CDB,equivalent ref. Piping: 8m(horizontal).
2. Nominal heating capacities are based on the following conditions:
indoor temperature: 20°CDB,outdoor temperature: 7°CDB,6°CWB,equivalent ref. Piping: 8m(horizontal).

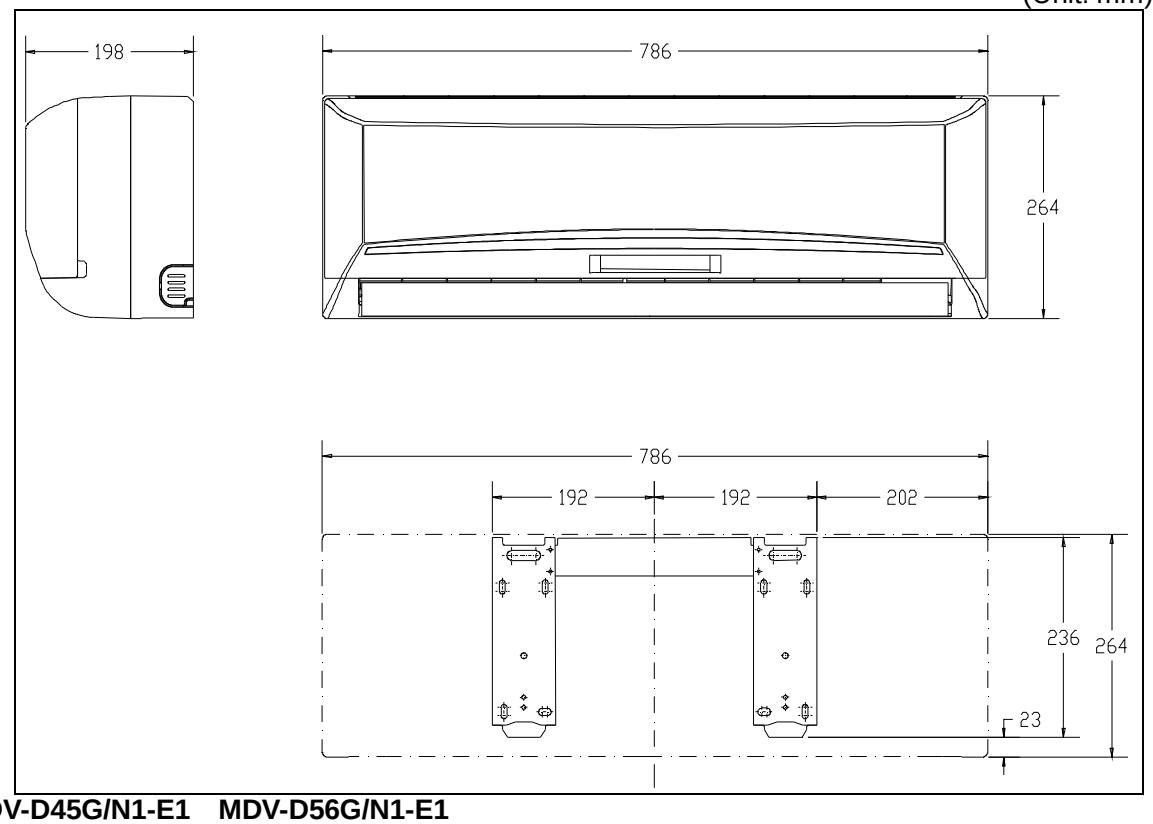
Model			MDV-D22G/N1-E7	MDV-D28G/N1-E7	MDV-D36G/N1-E7	MDV-D45G/N1-E7	MDV-D56G/N1-E7
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz				
Cooling	Capacity	kW	2.2	2.8	3.6	4.5	5.6
	Input	W	40	40	40	50	50
	Rated current	A	0.19	0.19	0.19	0.23	0.23
Heating	Capacity	kW	2.6	3.2	4.0	5.0	6.3
	Input	W	40	40	40	50	50
	Rated current	A	0.19	0.19	0.19	0.23	0.23
Indoor fan motor	Model		RPS13D	RPS13D	RPS13D	RPS28D	RPS28D
	Type		AC motor	AC motor	AC motor	AC motor	AC motor
	Brand		Weilling	Weilling	Weilling	Weilling	Weilling
	Input	W	49/38/30	49/38/30	49/38/30	50.5/44.5/40.5	50.5/44.5/40.5
	Capacitor	uF	1.5	1.5	1.5	1.5	1.5
	Speed (hi/mid/lo)	r/min	1180/1000/850	1180/1000/850	1180/1000/850	1180/1080/800	1180/1080/800
Indoor coil	Number of rows		2	2	2	2	2
	Tube pitch(a)x row pitch(b)	mm	21 x13.37	21 x13.37	21 x13.37	21 x13.37	21 x13.37
	Fin spacing	mm	1.3	1.3	1.3	1.3	1.3
	Fin type		Hydrophilic Aluminium				
	Tube outside dia. and type	mm	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube
	Coil length x height x width	mm	637×26.7×263.5	637×26.7×263.5	637×26.7×263.5	637×26.7×263.5	637×26.7×263.5
	Number of circuits		2	2	2	4	4
Indoor air flow (H/M/L)		m^3/h	520/480/430	520/480/430	585/520/480	860/755/630	925/860/755
Indoor noise level (Hi/Mid/Lo)		dB(A)	40/37/34	40/37/34	40/37/34	43/40/37	43/40/37
Indoor unit	Dimension (WxHxD)	mm	786X198X264	786X198X264	786X198X264	914X220X289	914X220X289
	Packing (WxHxD)	mm	885X365X400	885X365X400	885X365X400	1015X365X420	1015X365X420
	Net/Gross weight	kg	11/14.5	11/14.5	11/14.5	15/19	15/19
Refrigerant type			R410A	R410A	R410A	R410A	R410A
Throttle			Electric expansive valve				
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Connecting wiring	Power wiring	$Nb×mm^2$	3×2.5(L≤20m); 3×3.5(L≤50m)				
	Signal wiring	$Nb×mm^2$	3×1.0	3×1.0	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ15	Φ15	Φ15	Φ15	Φ15
Controller			Wireless remote controller (R51/E) (Standard)				
Operation temp		℃	Cooling: ≥17℃; Heating: ≤30℃				
Application area		m^2	7-22	9-28	12-36	15-45	18-56

Notes: 1. Nominal cooling capacities are based on the following conditions:
indoor temperature : 27°CDB,19°CWB,outdoor temperature:35°CDB,equivalent ref. Piping: 8m(horizontal).
2. Nominal heating capacities are based on the following conditions:
indoor temperature: 20°CDB,outdoor temperature: 7°CDB,6°CWB,equivalent ref. Piping: 8m(horizontal).

3. Dimension

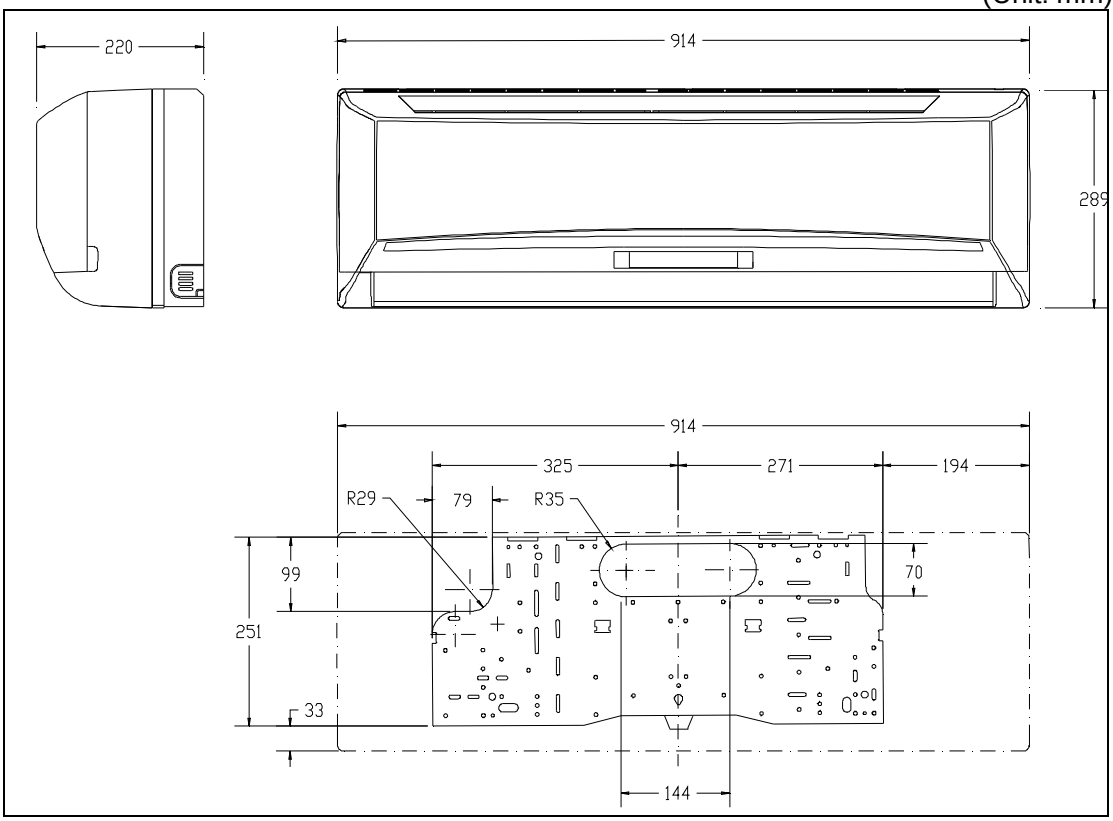
3.1 MDV-D22G/N1-E1 MDV-D28G/N1-E1 MDV-D36G/N1-E1
MDV-D22G/N1-E7 MDV-D28G/N1-E7 MDV-D36G/N1-E7

(Unit: mm)



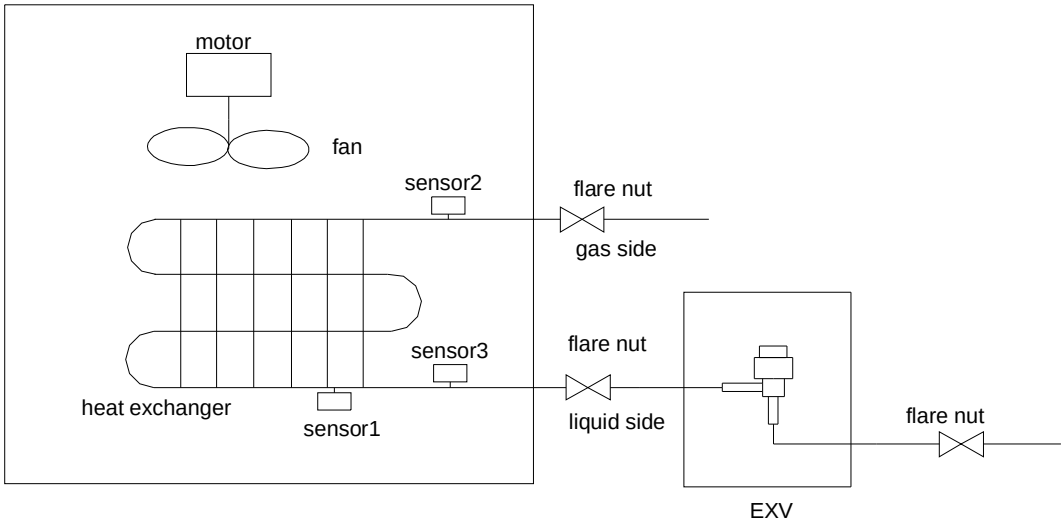
3.2 MDV-D45G/N1-E1 MDV-D56G/N1-E1
MDV-D45G/N1-E7 MDV-D56G/N1-E7

(Unit: mm)



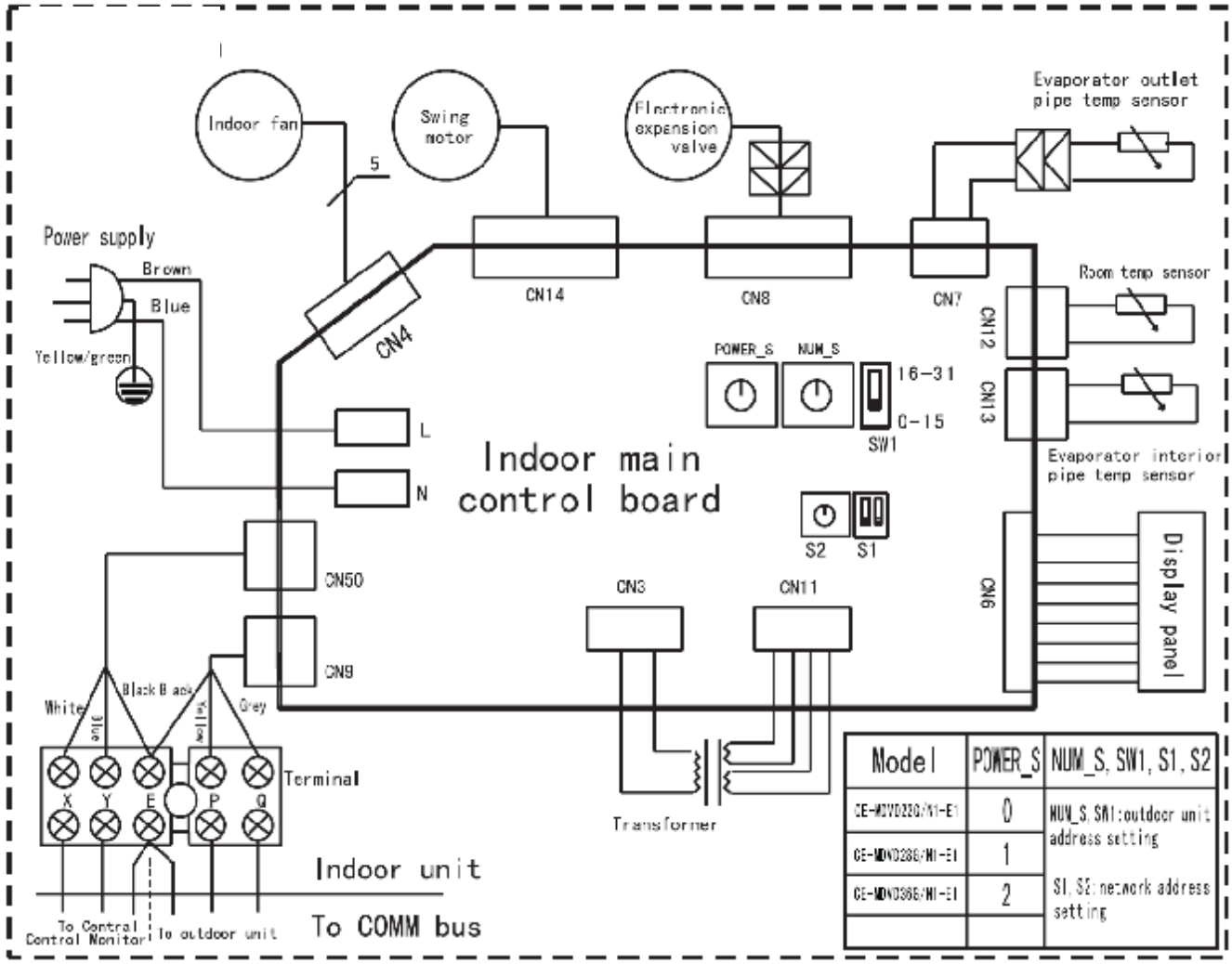
4. Piping diagrams

4.1 MDV-D22G/N1-E1 MDV-D28G/N1-E1 MDV-D36G/N1-E1 MDV-D45G/N1-E1 MDV-D56G/N1-E1 MDV-D22G/N1-E7 MDV-D28G/N1-E7 MDV-D36G/N1-E7 MDV-D45G/N1-E7 MDV-D56G/N1-E7

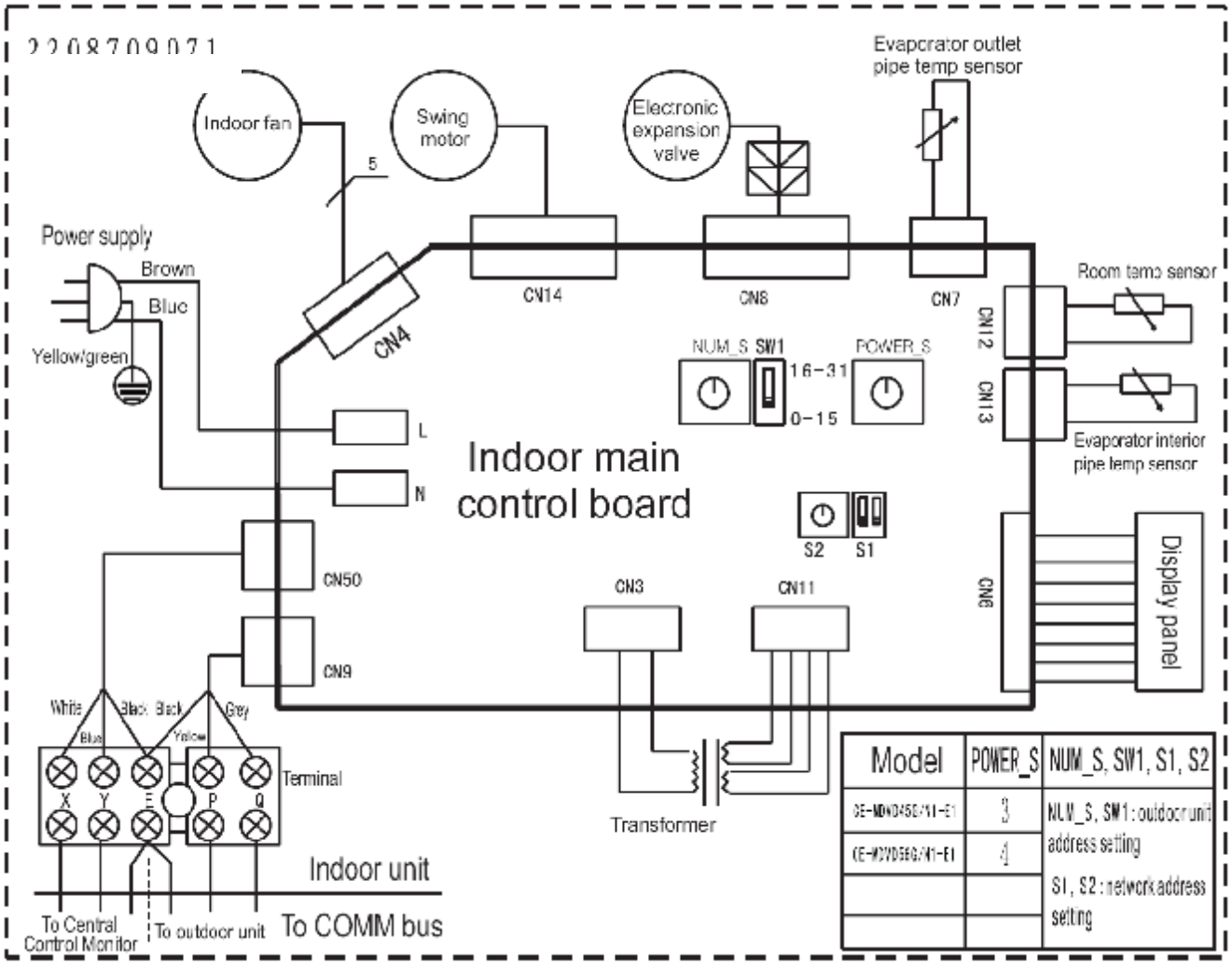


5. Wiring diagrams

5.1 MDV-D22G/N1-E1 MDV-D28G/N1-E1 MDV-D36G/N1-E1 MDV-D22G/N1-E7 MDV-D28G/N1-E7 MDV-D36G/N1-E7



5.2 MDV-D45G/N1-E1 MDV-D56G/N1-E1
MDV-D45G/N1-E7 MDV-D56G/N1-E7



6. Capacity tables

6.1 Cooling:

TC: total capacity **SC**: sensible capacity

Indoor Unit size (kW)	Outdoor temperature (℃ DB)	Indoor temperature (℃ WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2.2	10.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.9	1.7
	12.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	14.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	16.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	18.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	20.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	21.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	23.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.7	1.5
	25.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	27.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	29.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	31.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	33.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.4	1.5
	35.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.4	1.5
	37.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.3	1.5
	39.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.2	1.6	2.3	1.5	2.3	1.5
2.8	10.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.7	2.1
	12.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	14.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	16.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.0
	18.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.5	2.0
	20.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	21.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	23.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.1	3.4	1.9
	25.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	27.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	29.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	31.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	33.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.1	2.0
	35.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	3.1	2.0
	37.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	2.9	1.9
	39.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.8	2.0	2.9	1.9	2.9	1.9
3.6	10.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.8	2.8
	12.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	14.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	16.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	18.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	20.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	21.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	23.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7

Indoor Unit size (kW)	Outdoor temperature (℃ DB)	Indoor temperature (℃ WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC	TC	SC
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
4.5	25.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	27.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	29.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.5
	31.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.4
	33.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.0	2.4
	35.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	4.0	2.4
	37.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	3.9	2.3
	39.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.7	3.9	2.4
	10.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	12.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	14.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.8	3.3
	16.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	18.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	20.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.5	3.2
	21.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.4	3.1
	23.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.4	3.1
	25.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.3	3.0
	27.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.3	3.0
	29.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.1	2.9
	31.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	5.1	3.0
	33.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.9	2.9
	35.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.8	2.8
	37.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9
	39.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9
5.6	10.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	12.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	14.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.2	4.1
	16.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	18.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	20.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	21.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.0	4.1
	23.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	25.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.5	4.1	6.8	3.9
	27.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.4	4.0	6.5	3.8
	29.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.3	4.0	6.4	3.7
	31.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.2	3.9	6.3	3.7
	33.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.0	3.8	6.3	3.7
	35.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.7	6.2	3.6
	37.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.9	6.1	3.5
	39.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	5.7	3.8	5.8	3.8	6.0	3.5

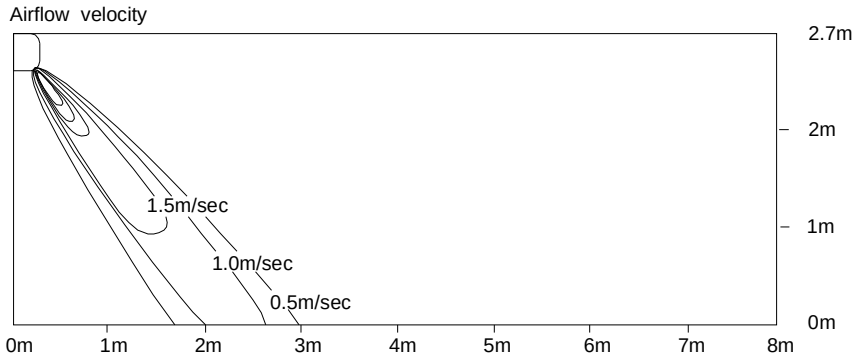
6.2 Heating: **TH**: total capacity

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
2.20	-15.00	-14.70	1.64	1.64	1.64	1.64	1.64	1.64
	-13.00	-12.60	1.74	1.74	1.74	1.74	1.74	1.74
	-11.00	-10.50	1.82	1.82	1.82	1.82	1.82	1.82
	-10.00	-9.50	1.90	1.90	1.90	1.90	1.90	1.90
	-9.10	-8.50	1.95	1.95	1.95	1.95	1.95	1.95
	-7.60	-7.00	1.98	1.98	1.98	1.98	1.98	1.98
	-5.60	-5.00	2.05	2.05	2.05	2.05	2.05	2.05
	-3.70	-3.00	2.16	2.16	2.16	2.16	2.16	2.16
	-0.70	0.00	2.31	2.31	2.31	2.31	2.31	2.18
	2.20	3.00	2.44	2.44	2.44	2.44	2.39	2.18
	4.10	5.00	2.52	2.52	2.52	2.52	2.39	2.18
	6.00	7.00	2.60	2.60	2.60	2.52	2.39	2.18
	7.90	9.00	2.68	2.68	2.93	2.52	2.39	2.18
	9.80	11.00	2.76	2.76	2.60	2.52	2.39	2.18
	11.80	13.00	2.86	2.81	2.60	2.52	2.39	2.18
	13.70	15.00	2.94	2.81	2.60	2.52	2.39	2.18
2.80	-15.00	-14.70	2.02	2.02	2.02	2.02	2.02	2.02
	-13.00	-12.60	2.14	2.14	2.14	2.14	2.14	2.14
	-11.00	-10.50	2.24	2.24	2.24	2.24	2.24	2.24
	-10.00	-9.50	2.34	2.34	2.34	2.34	2.34	2.34
	-9.10	-8.50	2.40	2.40	2.40	2.40	2.40	2.40
	-7.60	-7.00	2.43	2.43	2.43	2.43	2.43	2.43
	-5.60	-5.00	2.53	2.53	2.53	2.53	2.53	2.53
	-3.70	-3.00	2.66	2.66	2.66	2.66	2.66	2.66
	-0.70	0.00	2.85	2.85	2.85	2.85	2.85	2.69
	2.20	3.00	3.01	3.01	3.01	3.01	2.94	2.69
	4.10	5.00	3.10	3.10	3.10	3.10	2.94	2.69
	6.00	7.00	3.20	3.20	3.20	3.10	2.94	2.69
	7.90	9.00	3.30	3.30	2.93	3.10	2.94	2.69
	9.80	11.00	3.39	3.39	3.20	3.10	2.94	2.69
	11.80	13.00	3.52	3.46	3.20	3.10	2.94	2.69
	13.70	15.00	3.62	3.46	3.20	3.10	2.94	2.69
3.60	-15.00	-14.70	2.52	2.52	2.52	2.52	2.52	2.52
	-13.00	-12.60	2.68	2.68	2.68	2.68	2.68	2.68
	-11.00	-10.50	2.80	2.80	2.80	2.80	2.80	2.80
	-10.00	-9.50	2.92	2.92	2.92	2.92	2.92	2.92
	-9.10	-8.50	3.00	3.00	3.00	3.00	3.00	3.00
	-7.60	-7.00	3.04	3.04	3.04	3.04	3.04	3.04
	-5.60	-5.00	3.16	3.16	3.16	3.16	3.16	3.16
	-3.70	-3.00	3.32	3.32	3.32	3.32	3.32	3.32
	-0.70	0.00	3.56	3.56	3.56	3.56	3.56	3.36

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
	2.20	3.00	3.76	3.76	3.76	3.76	3.68	3.36
	4.10	5.00	3.88	3.88	3.88	3.88	3.68	3.36
	6.00	7.00	4.00	4.00	4.00	3.88	3.68	3.36
	7.90	9.00	4.12	4.12	2.93	3.88	3.68	3.36
	9.80	11.00	4.24	4.24	4.00	3.88	3.68	3.36
	11.80	13.00	4.40	4.32	4.00	3.88	3.68	3.36
	13.70	15.00	4.52	4.32	4.00	3.88	3.68	3.36
4.50	-15.00	-14.70	3.15	3.15	3.15	3.15	3.15	3.15
	-13.00	-12.60	3.35	3.35	3.35	3.35	3.35	3.35
	-11.00	-10.50	3.50	3.50	3.50	3.50	3.50	3.50
	-10.00	-9.50	3.65	3.65	3.65	3.65	3.65	3.65
	-9.10	-8.50	3.75	3.75	3.75	3.75	3.75	3.75
	-7.60	-7.00	3.80	3.80	3.80	3.80	3.80	3.80
	-5.60	-5.00	3.95	3.95	3.95	3.95	3.95	3.95
	-3.70	-3.00	4.15	4.15	4.15	4.15	4.15	4.15
	-0.70	0.00	4.45	4.45	4.45	4.45	4.45	4.20
	2.20	3.00	4.70	4.70	4.70	4.70	4.60	4.20
	4.10	5.00	4.85	4.85	4.85	4.85	4.60	4.20
	6.00	7.00	5.00	5.00	5.00	4.85	4.60	4.20
	7.90	9.00	5.15	5.15	2.93	4.85	4.60	4.20
	9.80	11.00	5.30	5.30	5.00	4.85	4.60	4.20
	11.80	13.00	5.50	5.40	5.00	4.85	4.60	4.20
	13.70	15.00	5.65	5.40	5.00	4.85	4.60	4.20
5.60	-15.00	-14.70	3.97	3.97	3.97	3.97	3.97	3.97
	-13.00	-12.60	4.22	4.22	4.22	4.22	4.22	4.22
	-11.00	-10.50	4.41	4.41	4.41	4.41	4.41	4.41
	-10.00	-9.50	4.60	4.60	4.60	4.60	4.60	4.60
	-9.10	-8.50	4.73	4.73	4.73	4.73	4.73	4.73
	-7.60	-7.00	4.79	4.79	4.79	4.79	4.79	4.79
	-5.60	-5.00	4.98	4.98	4.98	4.98	4.98	4.98
	-3.70	-3.00	5.23	5.23	5.23	5.23	5.23	5.23
	-0.70	0.00	5.61	5.61	5.61	5.61	5.61	5.29
	2.20	3.00	5.92	5.92	5.92	5.92	5.80	5.29
	4.10	5.00	6.11	6.11	6.11	6.11	5.80	5.29
	6.00	7.00	6.30	6.30	6.30	6.11	5.80	5.29
	7.90	9.00	6.49	6.49	2.93	6.11	5.80	5.29
	9.80	11.00	6.68	6.68	6.30	6.11	5.80	5.29
	11.80	13.00	6.93	6.80	6.30	6.11	5.80	5.29
	13.70	15.00	7.12	6.80	6.30	6.11	5.80	5.29

7. Velocity distribution

Discharge angle 70º



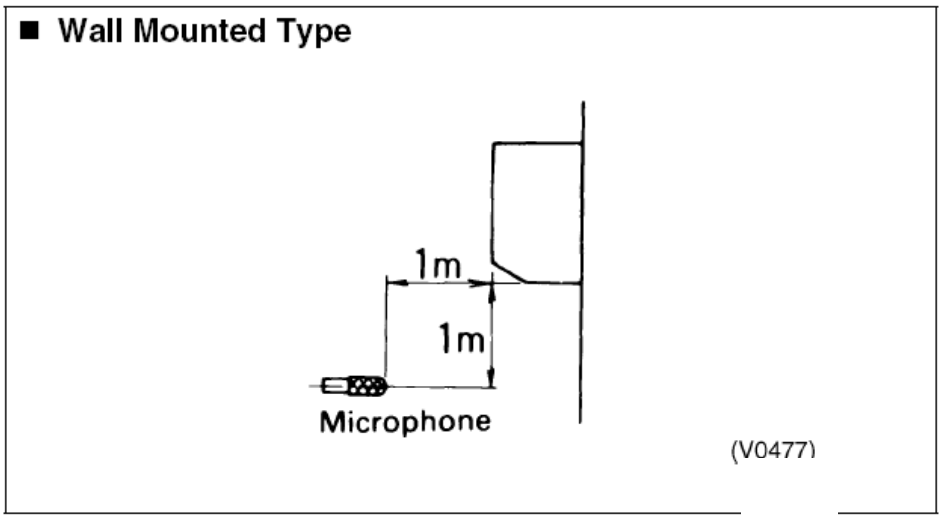
8. Electric characteristics

Model	Indoor Unit				Power Supply		IFM	
	Hz	Voltage	Min.	Max.	MCA	MFA	KW	FLA
MDV-D22G/N1-E1(E7)	50	220-240V	198	254	0.3	15	0.013	0.225
MDV-D28G/N1-E1(E7)	50	220-240V	198	254	0.3	15	0.013	0.225
MDV-D36G/N1-E1(E7)	50	220-240V	198	254	0.3	15	0.013	0.225
MDV-D45G/N1-E1(E7)	50	220-240V	198	254	0.3	15	0.028	0.24
MDV-D56G/N1-E1(E7)	50	220-240V	198	254	0.3	15	0.028	0.24

Remark:
MCA: Min. Current Amps. (A)
MFA: Max. Fuse Amps. (A)
KW: Fan Motor Rated Output (kW)
FLA: Full Load Amps. (A)
IFM: Indoor Fan Motor

9. Sound level

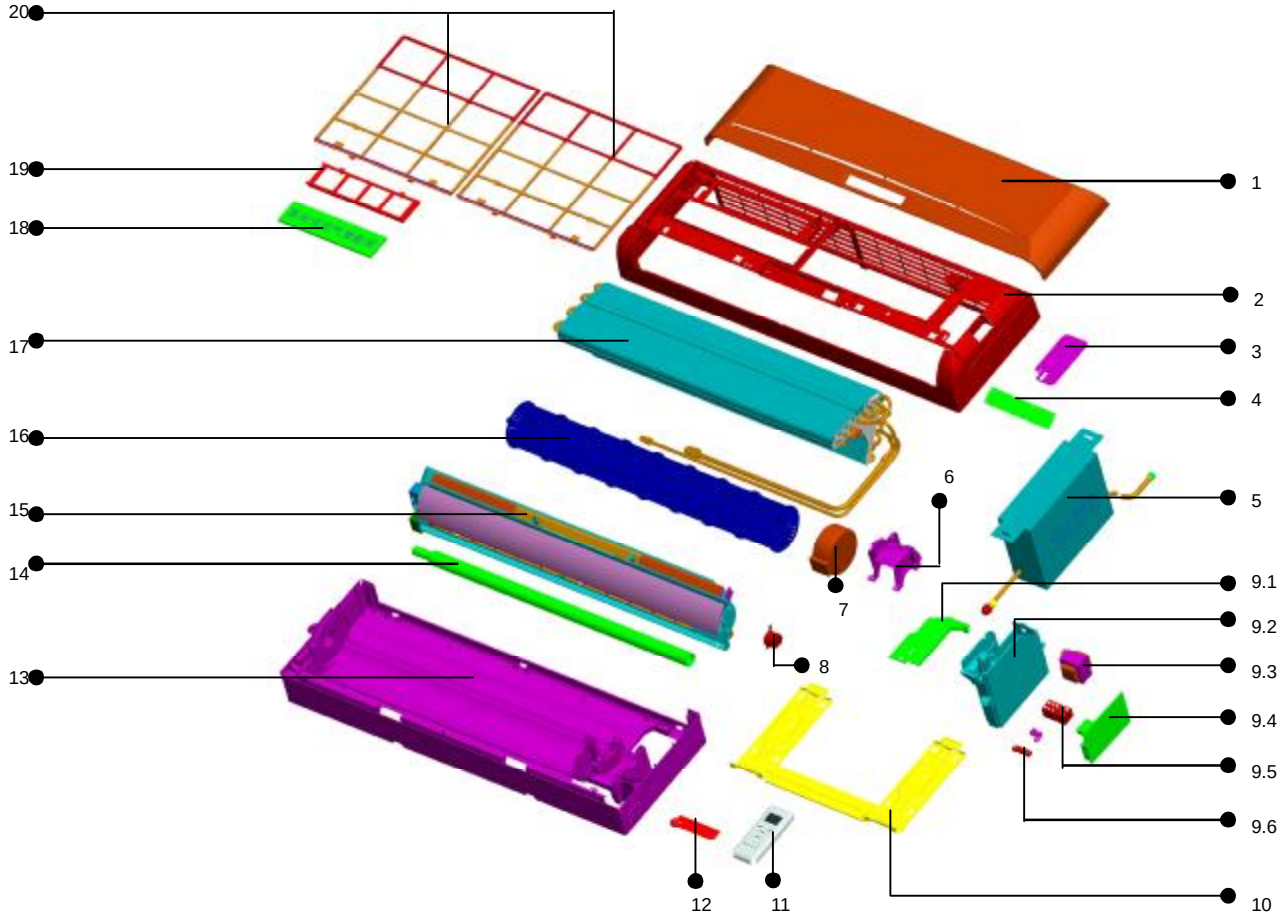
9.1 Test condition



Model	Noise level under three speeds of fan (dB(A))		
	H	M	L
MDV-D22G/N1-E1(E7)	40	37	34
MDV-D28G/N1-E1(E7)	40	37	34
MDV-D36G/N1-E1(E7)	40	37	34
MDV-D45G/N1-E1(E7)	43	40	37
MDV-D56G/N1-E1(E7)	43	40	37

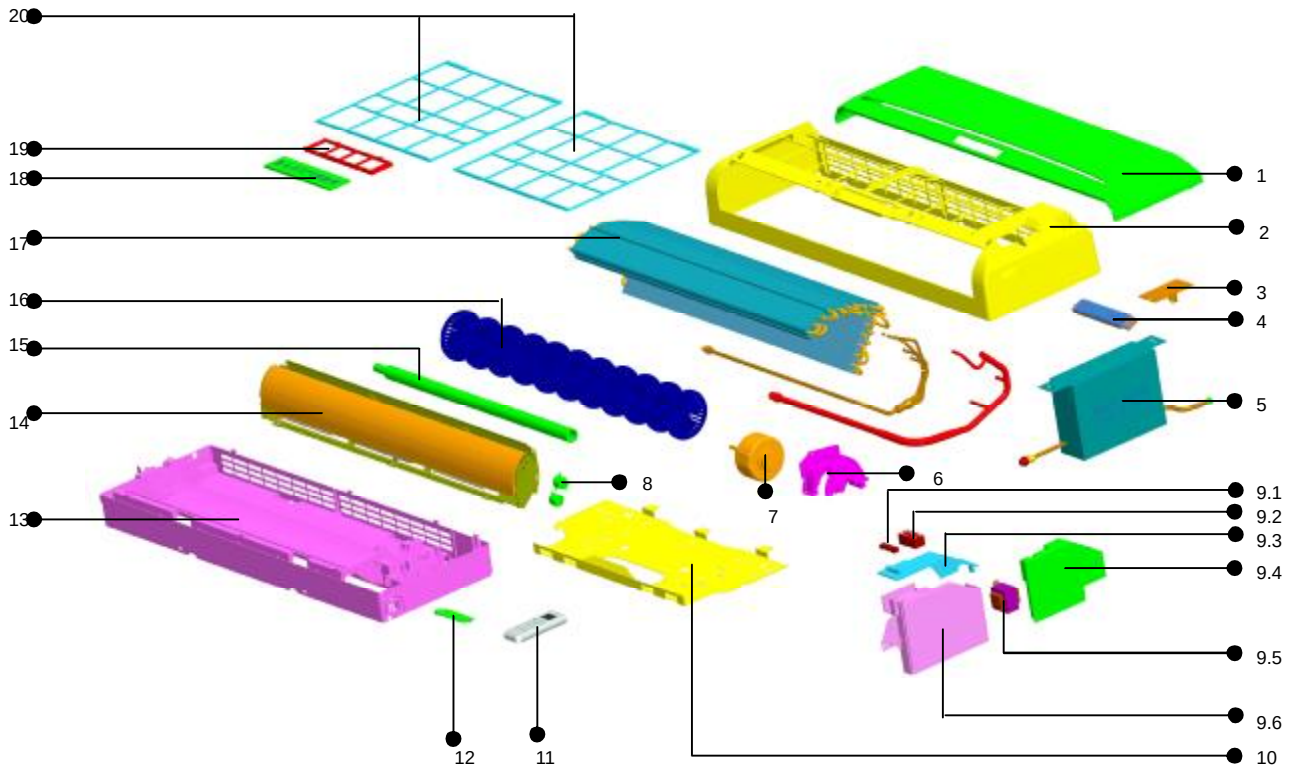
10. Exploded view

10.1 MDV-D22G/N1-E1 MDV-D28G/N1-E1 MDV-D36G/N1-E1



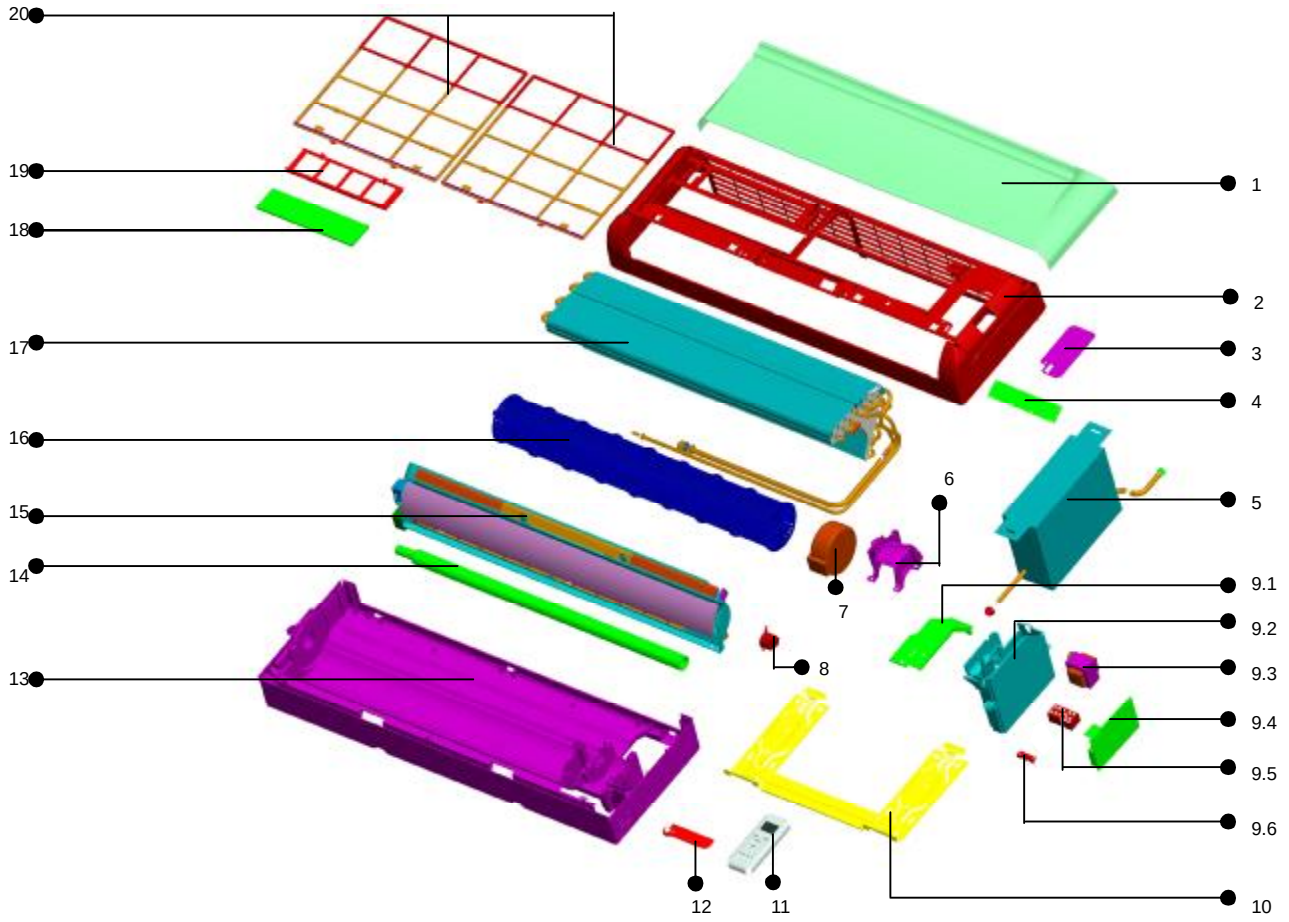
No.	Part name	Quantity	No.	Part name	Quantity
1	Front panel	1	14	Drain hose	1
2	Panel frame	1	15	Air out frame	1
3	Cover, electric control box	1	16	Cross flow fan assembly	1
4	Display board，Ass'y	1	17	Evaporator assembly	1
5	Electric throttle	1	17.1	Evaporator front	1
6	Motor cover	1	17.2	Evaporator back	1
7	Fan motor	1	17.3	Liquid input pipe, evaporator, subassembly	1
8	Louver motor	1	17.3.1	Pipe connecter	1
9	Electrical control box subassembly	1	17.4	Gas output pipe, evaporator, subassembly	1
9.1	E-part box cover	1	17.4.1	Pipe connecter	1
9.2	E-Parts box	1	17.5	Pipe nut	1
9.3	Transformer	1	17.6	Pipe nut	1
9.4	Main control board	1	17.7	Sphere pad	1
9.5	Terminal	1	17.8	Sphere pad	1
9.6	Wire clamp	2	17.9	Copper nut	1
10	Installation Plate	1	17.10	Copper nut	1
11	Remote controller	1	18	Air cleaner	1
12	Connecting pipe clamp	1	19	Air cleaner holder	1
13	Chassis assembly	1	20	Air Filter	2

10.2 MDV-D45G/N1-E1 MDV-D56G/N1-E1



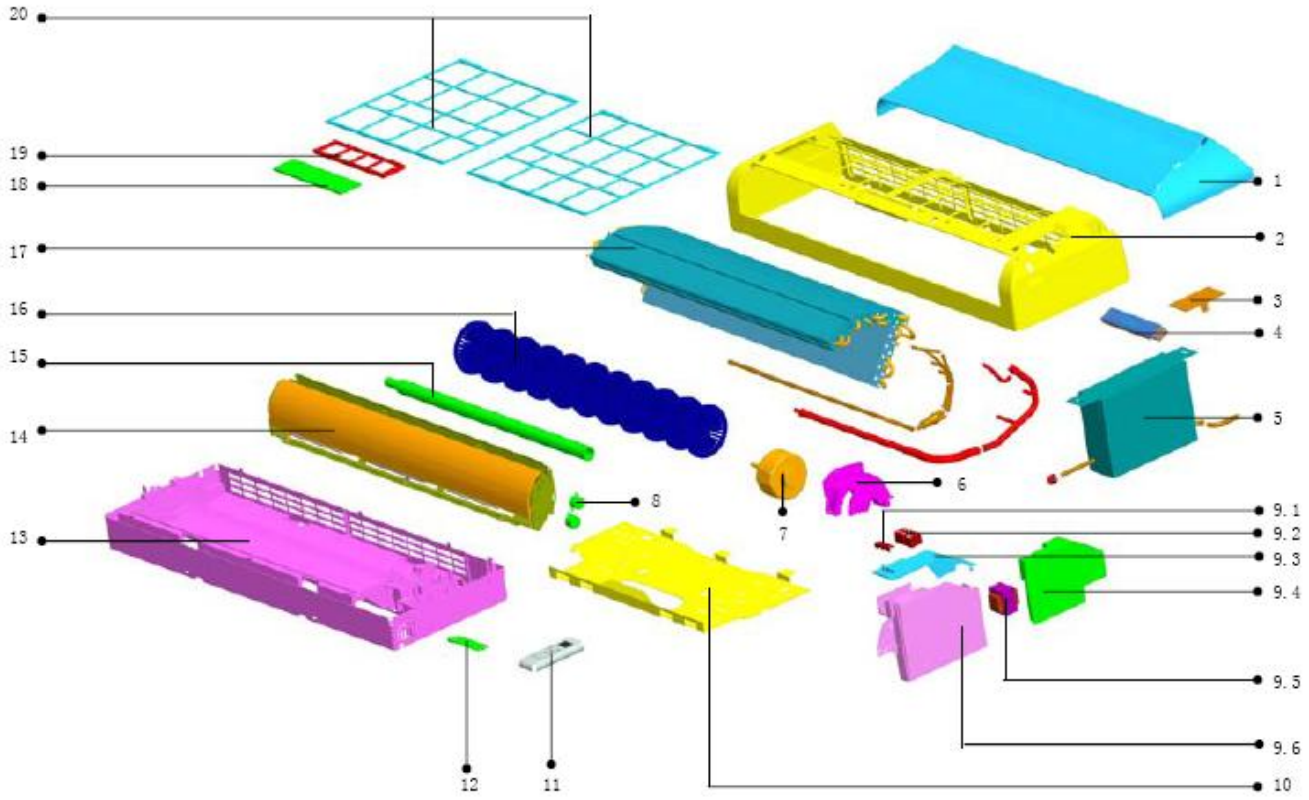
No.	Part name	Quantity	No.	Part name	Quantity
1	Front panel	1	14	Drain hose	1
2	Panel frame	1	15	Air out frame	1
3	Cover, electric control box	1	16	Cross flow fan assembly	1
4	Display board，Ass'y	1	17	Evaporator assembly	1
5	Electric throttle	1	17.1	Evaporator front	1
6	Motor cover	1	17.2	Evaporator back	1
7	Fan motor	1	17.3	Liquid input pipe, evaporator, subassembly	1
8	Louver motor	1	17.3.1	Pipe connecter	1
9	Electrical control box subassembly	1	17.4	Gas output pipe, evaporator, subassembly	1
9.1	Wire clamp	1	17.4.1	Pipe connecter	1
9.2	Terminal	1	17.5	Pipe nut	1
9.3	E-part box cover	1	17.6	Pipe nut	1
9.4	Main control board	1	17.7	Sphere pad	1
9.5	Transformer	1	17.8	Sphere pad	1
9.6	E-Parts box	1	17.9	Copper nut	1
10	Installation Plate	1	17.10	Copper nut	1
11	Remote controller	1	18	Air cleaner	1
12	Connecting pipe clamp	1	19	Air cleaner holder	1
13	Chassis assembly	1	20	Air Filter	2

10.3 MDV-D22G/N1-E7 MDV-D28G/N1-E7 MDV-D36G/N1-E7



No.	Part name	Quantity	No.	Part name	Quantity
1	Front panel	1	14	Drain hose	1
2	Panel frame	1	15	Air out frame	1
3	Cover, electric control box	1	16	Cross flow fan assembly	1
4	Display board，Ass'y	1	17	Evaporator assembly	1
5	Electric throttle	1	17.1	Evaporator front	1
6	Motor cover	1	17.2	Evaporator back	1
7	Fan motor	1	17.3	Liquid input pipe, evaporator, subassembly	1
8	Louver motor	1	17.3.1	Pipe connecter	1
9	Electrical control box subassembly	1	17.4	Gas output pipe, evaporator, subassembly	1
9.1	E-part box cover	1	17.4.1	Pipe connecter	1
9.2	E-Parts box	1	17.5	Pipe nut	1
9.3	Transformer	1	17.6	Pipe nut	1
9.4	Main control board	1	17.7	Sphere pad	1
9.5	Terminal	1	17.8	Sphere pad	1
9.6	Wire clamp	2	17.9	Copper nut	1
10	Installation Plate	1	17.10	Copper nut	1
11	Remote controller	1	18	Air cleaner	1
12	Connecting pipe clamp	1	19	Air cleaner holder	1
13	Chassis assembly	1	20	Air Filter	2

10.4 MDV-D45G/N1-E7 MDV-D56G/N1-E7



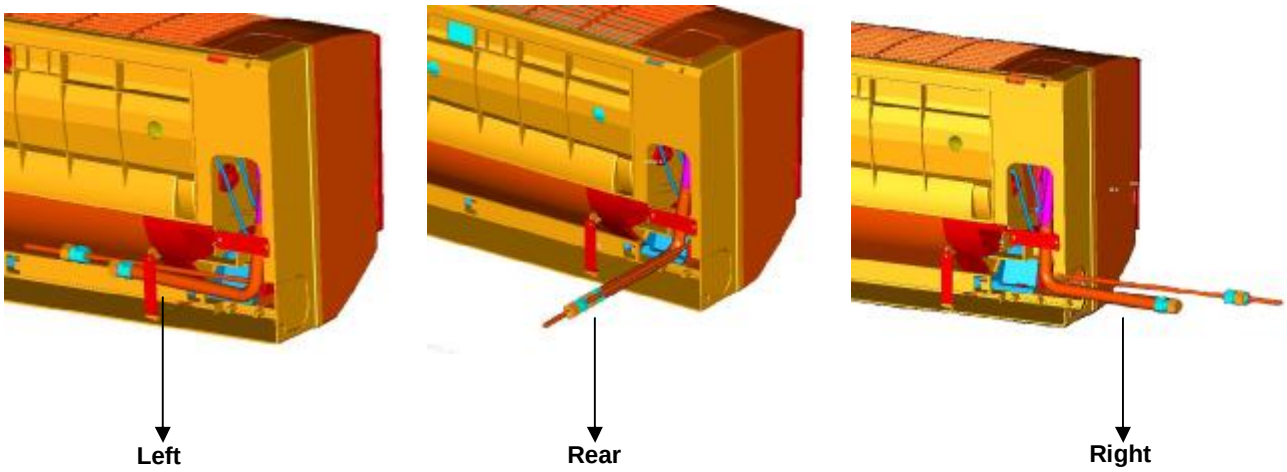
No.	Part name	Quantity	No.	Part name	Quantity
1	Front panel	1	14	Drain hose	1
2	Panel frame	1	15	Air out frame	1
3	Cover, electric control box	1	16	Cross flow fan assembly	1
4	Display board，Ass'y	1	17	Evaporator assembly	1
5	Electric throttle	1	17.1	Evaporator front	1
6	Motor cover	1	17.2	Evaporator back	1
7	Fan motor	1	17.3	Liquid input pipe, evaporator, subassembly	1
8	Louver motor	1	17.4	Gas output pipe, evaporator, subassembly	1
9	Electrical control box subassembly	1	17.5	Pipe nut	1
9.1	Wire clamp	1	17.6	Pipe nut	1
9.2	Terminal	1	17.7	Sphere pad	1
9.3	E-part box cover	1	17.8	Sphere pad	1
9.4	Main control board	1	17.9	Copper nut	1
9.5	Transformer	1	17.10	Copper nut	1
9.6	E-Parts box	1	18	Air cleaner	1
10	Installation Plate	1	19	Air cleaner holder	1
11	Remote controller	1	20	Air Filter	2
12	Connecting pipe clamp	1	21	The temperature sensor	1
13	Chassis assembly	1	22	Room temperature sensory package	1

New Wall-mounted Type

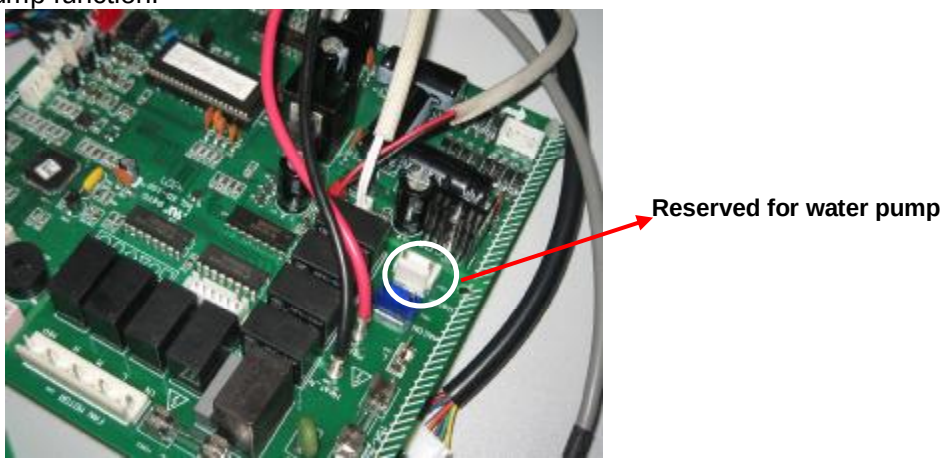
1. Features 149
2. Specifications 150
3. Dimensions 150
4. Piping Diagram 150
5. Wiring Diagrams 150
6. Capacity Tables 150
7. Velocity and Temperature Distribution 150
8. Electric Characteristics 150
9. Sound Levels 150
10. Exploded View 150
11. Accessories 150

1. Features

1. LED display.
2. Big and small panels have different colors for choose: white and brown for big panel, blue and brown for small panel, and the other colors can be customized according to the customers' demands.
3. Built-in the electronic throttle kit.
4. Multi-refrigerant outlet pipe method: left\right\rear, satisfy the need of different rooms.



5. Adopt new type installation plate, easy for installation and stable.
6. Reserved the socket on main control board for water pump and PCB can be customized if you need water pump function.



7. Three air flow speed: high、middle and low, double air guides.
8. Low noise, creates quite and comfortable environment.
9. Air cleaning equipment and the high efficiency filter, keep the air fresh.

2. Specifications

Model			MDV-D22G/N1Y	MDV-D28G/N1Y	MDV-D36G/N1Y	MDV-D45G/N1Y	MDV-D56G/N1Y
Power supply		V- Ph-Hz	220-240~1~50				
Cooling	Capacity	kW	2.2	2.8	3.6	4.5	5.6
	Input	W	30	30	30	45	45
	Rated current	A	0.14	0.14	0.14	0.2	0.2
Heating	Capacity	kW	2.6	3.2	4.0	5.0	6.3
	Input	W	30	30	30	45	45
	Rated current	A	0.14	0.14	0.14	0.2	0.2
Indoor fan motor	Model		YDK15-6	YDK15-6	YDK15-6	YDK18-4	YDK18-4
	Type		AC motor	AC motor	AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling	Welling	Welling
	Input	W	30/24/22	30/24/22	30/24/22	44/42/39	44/42/39
	Capacitor	uF	1.2	1.2	1.2	1.2	1.2
	Speed (hi/mid/lo)	r/min	880/810/760	880/810/760	880/810/760	1030/980/880	1030/980/880
Indoor coil	Number of rows		2	2	2	2	2
	Tube pitch(a)x row pitch(b)	mm	21 x13.37	21 x13.37	21 x13.37	21 x13.37	21 x13.37
	Fin spacing	mm	1.5	1.5	1.5	1.5	1.5
	Fin type		Hydrophilic Aluminium				
	Tube outside dia. and type	mm	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube
	Coil length x height x width	mm	635x315 x26.74	635x315x26.74	635x315x26.74	785x357x26.74	785x357x26.74
	Number of circuits		3	3	3	6	6
Indoor air flow (H/M/L)		m^3/h	580/500/420	580/500/420	580/500/420	900/760/650	900/760/650
Indoor noise level (sound pressure)		dB(A)	35/32/29	35/32/29	35/32/29	40/38/34	40/38/34
Indoor unit	Dimension (WxHxD)	mm	915 x210x290	915 x210x290	915 x210x290	1070 x210x315	1070 x210x315
	Packing (WxHxD)	mm	1020X300X385	1020X300X385	1020X300X385	1180X300X410	1180X300X410
	Net/Gross weight	kg	12/16	12/16	12/16	15/19	16/19
Refrigerant type			R410A	R410A	R410A	R410A	R410A
Throttle			Inside Electric expansive valve				
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	6.35/12.7	6.35/12.7	6.35/12.7	6.35/12.7	9.53/15.9
Connecting wiring	Power wiring	Nb× mm^2	3×2.5(L≤20m); 3×3.5(L≤50m)				
	Signal wiring	Nb×mm^2	3×1.0	3×1.0	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ20	Φ20	Φ20	Φ20	Φ20
Controller			Wireless remote controller (R51/E)(standard)				
Operation temp		℃	17~30				
Application area		m^2	7~22	9~28	12~36	15~45	18~56

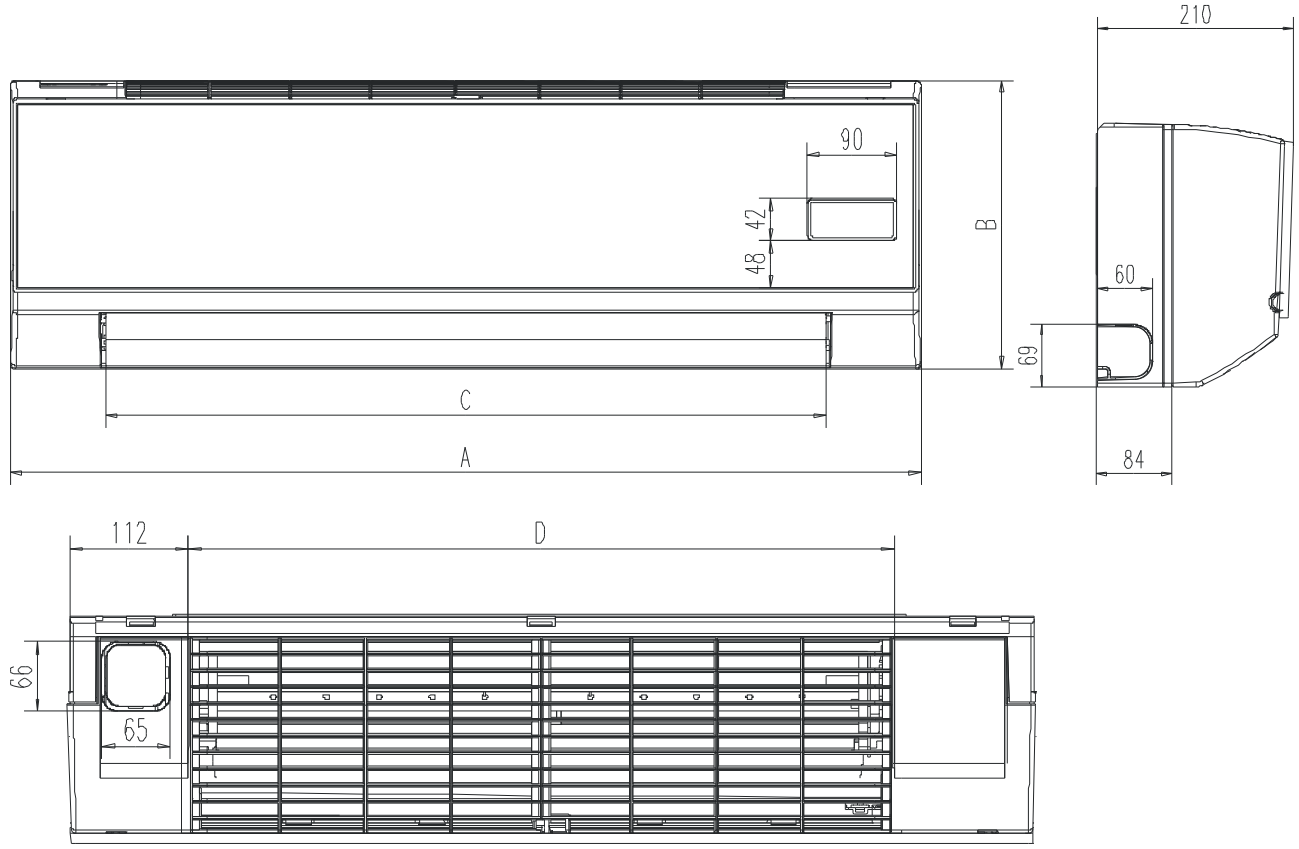
Notes: 1. Nominal cooling capacities are based on the following conditions:
indoor temperature : 27°CDB,19°CWB,outdoor temperature:35°CDB,equivalent ref. Piping: 8m(horizontal).
2. Nominal heating capacities are based on the following conditions:
indoor temperature: 20°CDB,outdoor temperature: 7°CDB,6°CWB,equivalent ref. Piping: 8m(horizontal).

Model			MDV-D22G/DN1Y	MDV-D28G/DN1Y	MDV-D36G/DN1Y	MDV-D45G/DN1Y	MDV-D56G/DN1Y
Power supply		V-Ph-Hz	220-240~1~50				
Cooling	Capacity	kW	2.2	2.8	3.6	4.5	5.6
	Input	W	30	30	30	45	45
	Rated current	A	0.14	0.14	0.14	0.2	0.2
Heating	Capacity	kW	2.6	3.2	4.0	5.0	6.3
	Input	W	30	30	30	45	45
	Rated current	A	0.14	0.14	0.14	0.2	0.2
	Input	W	750	750	750	900	900
Electric heater	Input	W	750	750	750	900	900
Indoor fan motor	Model		YDK15-6	YDK15-6	YDK15-6	YDK18-4	YDK18-4
	Type		AC motor	AC motor	AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling	Welling	Welling
	Input	W	30/24/22	30/24/22	30/24/22	44/42/39	44/42/39
	Capacitor	uF	1.2	1.2	1.2	1.2	1.2
	Speed (hi/mid/lo)	r/min	880/810/760	880/810/760	880/810/760	1030/980/880	1030/980/880
Indoor coil	Number of rows		2	2	2	2	2
	Tube pitch(a)x row pitch(b)	mm	21 x13.37	21 x13.37	21 x13.37	21 x13.37	21 x13.37
	Fin spacing	mm	1.5	1.5	1.5	1.5	1.5
	Fin type		Hydrophilic Aluminium				
	Tube outside dia. and type	mm	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube	Φ7, Inner groove Tube
	Coil length x height x width	mm	635x315x26.74	635x315x26.74	635x315x26.74	785x357x26.74	785x357x26.74
	Number of circuits		3	3	3	6	6
Indoor air flow (H/M/L)		m^3/h	580/500/420	580/500/420	580/500/420	900/760/650	900/760/650
Indoor noise level (sound pressure)		dB(A)	35/32/29	35/32/29	35/32/29	40/38/34	40/38/34
Indoor unit	Dimension (WxHxD)	mm	915 x210x290	915 x210x290	915 x210x290	1070 x210x315	1070 x210x315
	Packing (WxHxD)	mm	1020X300X385	1020X300X385	1020X300X385	1180X300X410	1180X300X410
	Net/Gross weight	kg	12/16	12/16	12/16	15/19	16/19
Refrigerant type			R410A	R410A	R410A	R410A	R410A
Throttle			Inside Electric expansive valve				
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ9.53/Φ15.9
Connecting wiring	Power wiring	$Nb\times mm^2$	3×2.5(L≤20m); 3×3.5(L≤50m)				
	Signal wiring	$Nb\times mm^2$	3×1.0	3×1.0	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ20	Φ20	Φ20	Φ20	Φ20
Controller			Wireless remote controller R51/E(standard)				
Operation temp		℃	17~30				
Application area		m^2	7~22	9~28	12~36	15~45	18~56

Notes: 1. Nominal cooling capacities are based on the following conditions:
indoor temperature : 27°CDB,19°CWB,outdoor temperature:35°CDB,equivalent ref. Piping: 8m(horizontal).
2. Nominal heating capacities are based on the following conditions:
indoor temperature: 20°CDB,outdoor temperature: 7°CDB,6°CWB,equivalent ref. Piping: 8m(horizontal).

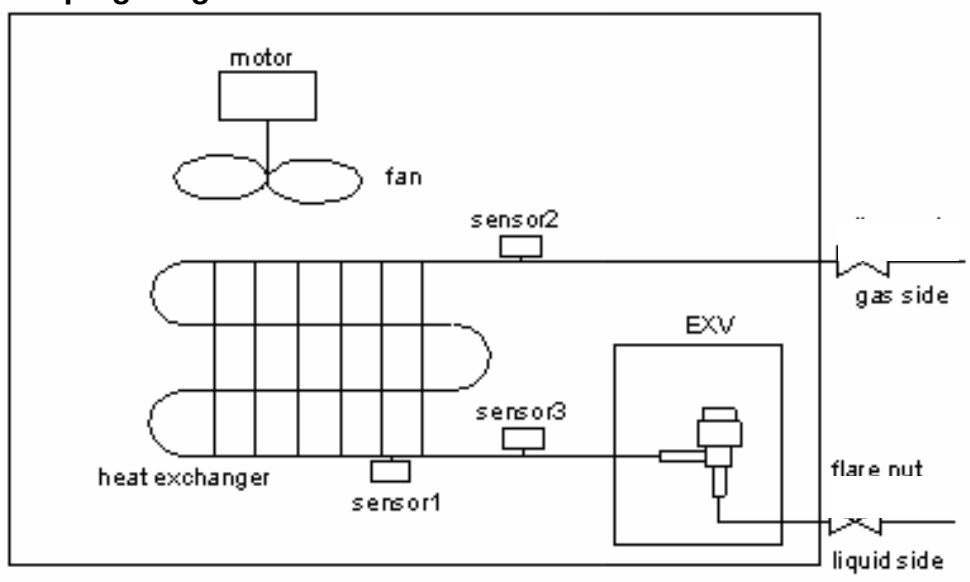
3. Dimensions

3.1 MDV-D22G/N1Y MDV-D28G/N1Y MDV-D36G/N1Y MDVD45G/N1Y MDVD56G/N1Y MDV-D22G/DN1Y MDV-D28G/DN1Y MDV-D36G/DN1Y MDVD45G/DN1Y MDVD56G/DN1Y



Model	2.2kW	2.8 kW	3.6 kW	4.5 kW	5.6 kW
A	915	915	915	1070	1070
B	290	290	290	315	315
C	725	725	725	885	885
D	670	670	670	815	815

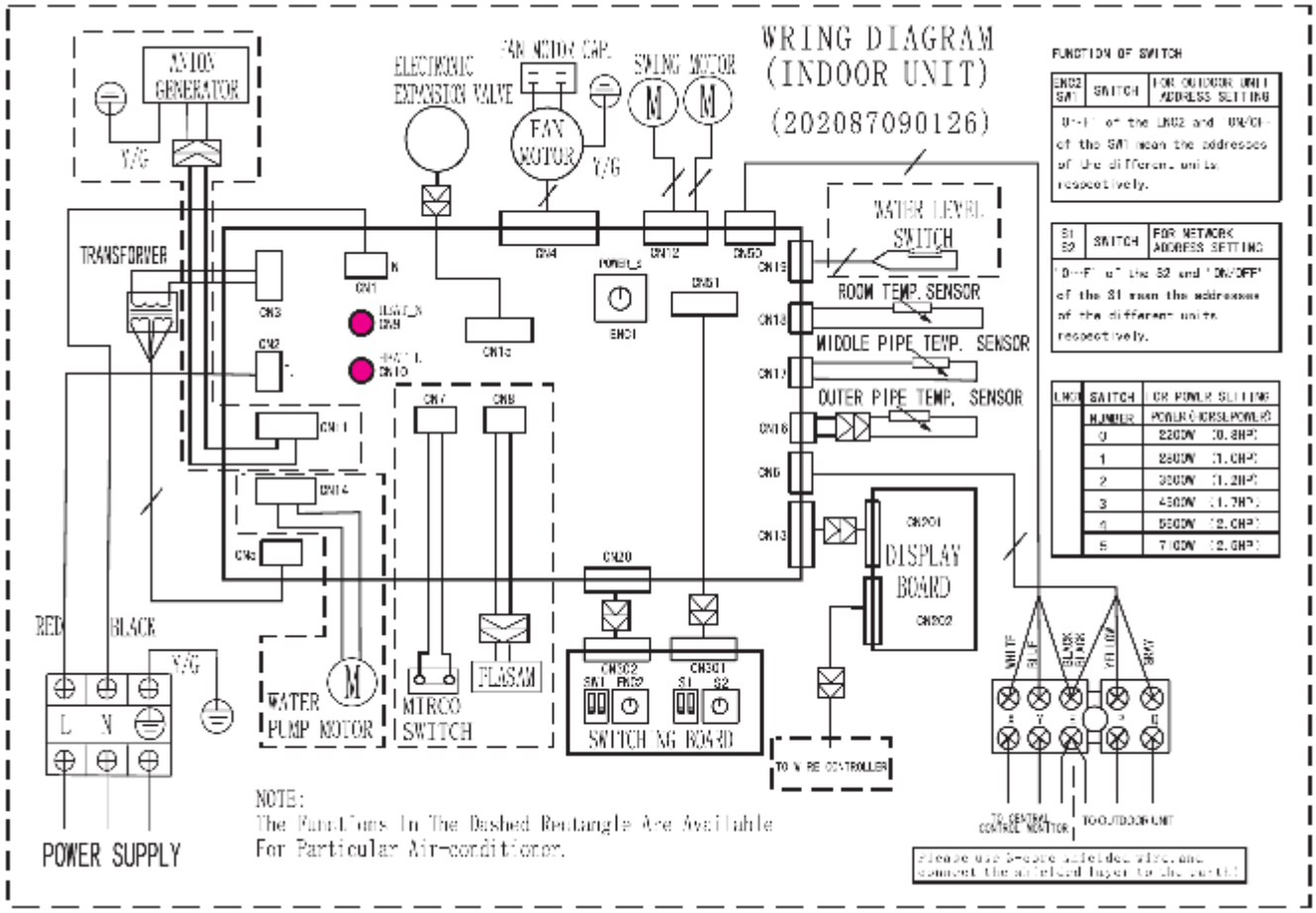
4. Piping Diagram



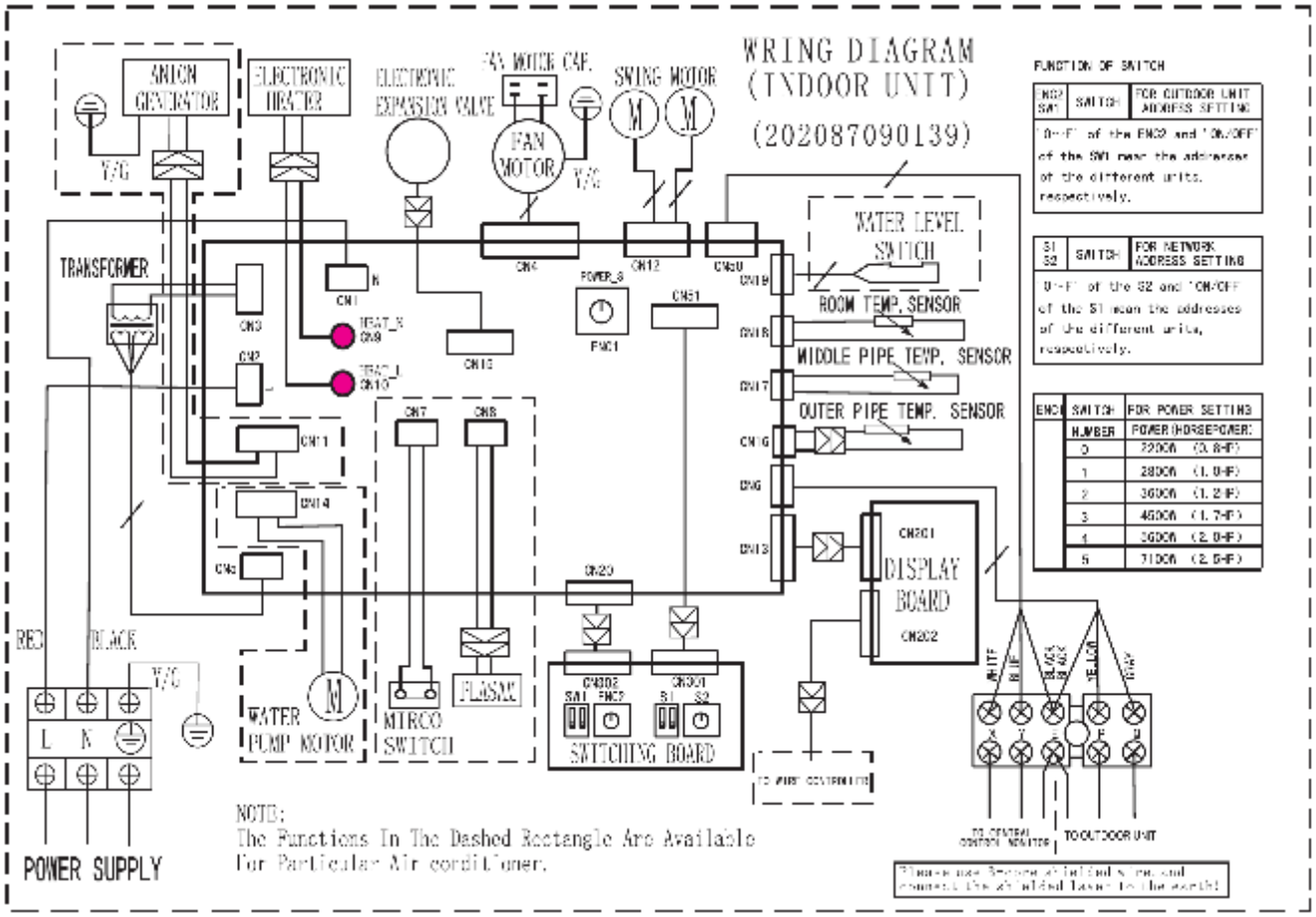
Sensor1: T2
Sensor2: T2B
Sensor3: T1

5. Wiring Diagrams

5.1 MDV-D22G/N1Y MDV-D28G/N1Y MDV-D36G/N1Y MDVD45G/N1Y MDVD56G/N1Y



5.2 MDV-D22G/DN1Y MDV-D28G/DN1Y MDV-D36G/DN1Y MDV-D45G/DN1Y MDVD56G/DN1Y



6. Capacity Tables

6.1 Cooling

TH: total capacity **SH**: sensible capacity

Indoor Unit size (kW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2.2	10.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.9	1.7
	12.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	14.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	16.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	18.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	20.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	21.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	23.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.7	1.5
	25.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	27.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	29.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	31.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	33.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.4	1.5
	35.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.4	1.5
	37.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.3	1.5
	39.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.2	1.6	2.3	1.5	2.3	1.5
2.8	10.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.7	2.1
	12.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	14.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	16.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.0
	18.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.5	2.0
	20.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	21.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	23.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.1	3.4	1.9
	25.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	27.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	29.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	31.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	33.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.1	2.0
	35.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	3.1	2.0
	37.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	2.9	1.9
	39.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.8	2.0	2.9	1.9	2.9	1.9
3.6	10.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.8	2.8
	12.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	14.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	16.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	18.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	20.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	21.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	23.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	25.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	27.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	29.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.5

Indoor Unit size (kW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH	TH	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	31.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.4
	33.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.0	2.4
	35.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	4.0	2.4
	37.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	3.9	2.3
	39.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.7	3.9	2.4
4.5	10.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	12.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	14.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.8	3.3
	16.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	18.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	20.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.5	3.2
	21.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.4	3.1
	23.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.4	3.1
	25.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.3	3.0
	27.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.3	3.0
	29.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.1	2.9
	31.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	5.1	3.0
	33.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.9	2.9
	35.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.8	2.8
	37.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9
	39.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9
5.6	10.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	12.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	14.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.2	4.1
	16.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	18.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	20.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	21.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.0	4.1
	23.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	25.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.5	4.1	6.8	3.9
	27.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.4	4.0	6.5	3.8
	29.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.3	4.0	6.4	3.7
	31.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.2	3.9	6.3	3.7
	33.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.0	3.8	6.3	3.7
	35.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.7	6.2	3.6
	37.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.9	6.1	3.5
	39.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	5.7	3.8	5.8	3.8	6.0	3.5

6.2 Heating

TH: total capacity

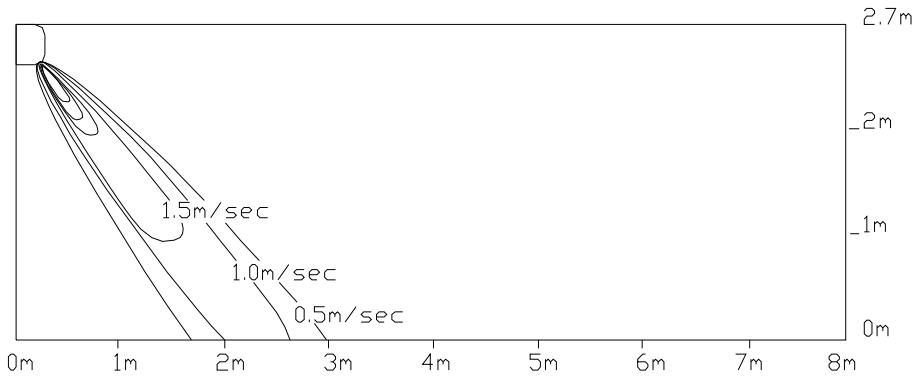
Indoor Unit size (kW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
2.20	-15.00	-14.70	1.64	1.64	1.64	1.64	1.64	1.64
	-13.00	-12.60	1.74	1.74	1.74	1.74	1.74	1.74
	-11.00	-10.50	1.82	1.82	1.82	1.82	1.82	1.82
	-10.00	-9.50	1.90	1.90	1.90	1.90	1.90	1.90
	-9.10	-8.50	1.95	1.95	1.95	1.95	1.95	1.95
	-7.60	-7.00	1.98	1.98	1.98	1.98	1.98	1.98
	-5.60	-5.00	2.05	2.05	2.05	2.05	2.05	2.05
	-3.70	-3.00	2.16	2.16	2.16	2.16	2.16	2.16
	-0.70	0.00	2.31	2.31	2.31	2.31	2.31	2.18
	2.20	3.00	2.44	2.44	2.44	2.44	2.39	2.18
	4.10	5.00	2.52	2.52	2.52	2.52	2.39	2.18
	6.00	7.00	2.60	2.60	2.60	2.52	2.39	2.18
	7.90	9.00	2.68	2.68	2.60	2.52	2.39	2.18
	9.80	11.00	2.76	2.76	2.60	2.52	2.39	2.18
	11.80	13.00	2.86	2.81	2.60	2.52	2.39	2.18
	13.70	15.00	2.94	2.81	2.60	2.52	2.39	2.18
2.80	-15.00	-14.70	2.02	2.02	2.02	2.02	2.02	2.02
	-13.00	-12.60	2.14	2.14	2.14	2.14	2.14	2.14
	-11.00	-10.50	2.24	2.24	2.24	2.24	2.24	2.24
	-10.00	-9.50	2.34	2.34	2.34	2.34	2.34	2.34
	-9.10	-8.50	2.40	2.40	2.40	2.40	2.40	2.40
	-7.60	-7.00	2.43	2.43	2.43	2.43	2.43	2.43
	-5.60	-5.00	2.53	2.53	2.53	2.53	2.53	2.53
	-3.70	-3.00	2.66	2.66	2.66	2.66	2.66	2.66
	-0.70	0.00	2.85	2.85	2.85	2.85	2.85	2.69
	2.20	3.00	3.01	3.01	3.01	3.01	2.94	2.69
	4.10	5.00	3.10	3.10	3.10	3.10	2.94	2.69
	6.00	7.00	3.20	3.20	3.20	3.10	2.94	2.69
	7.90	9.00	3.30	3.30	3.20	3.10	2.94	2.69
	9.80	11.00	3.39	3.39	3.20	3.10	2.94	2.69
	11.80	13.00	3.52	3.46	3.20	3.10	2.94	2.69
	13.70	15.00	3.62	3.46	3.20	3.10	2.94	2.69
3.60	-15.00	-14.70	2.52	2.52	2.52	2.52	2.52	2.52
	-13.00	-12.60	2.68	2.68	2.68	2.68	2.68	2.68
	-11.00	-10.50	2.80	2.80	2.80	2.80	2.80	2.80
	-10.00	-9.50	2.92	2.92	2.92	2.92	2.92	2.92
	-9.10	-8.50	3.00	3.00	3.00	3.00	3.00	3.00
	-7.60	-7.00	3.04	3.04	3.04	3.04	3.04	3.04
	-5.60	-5.00	3.16	3.16	3.16	3.16	3.16	3.16
	-3.70	-3.00	3.32	3.32	3.32	3.32	3.32	3.32
	-0.70	0.00	3.56	3.56	3.56	3.56	3.56	3.36
	2.20	3.00	3.76	3.76	3.76	3.76	3.68	3.36
	4.10	5.00	3.88	3.88	3.88	3.88	3.68	3.36
	6.00	7.00	4.00	4.00	4.00	3.88	3.68	3.36

Indoor Unit size (kW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
	7.90	9.00	4.12	4.12	4.00	3.88	3.68	3.36
	9.80	11.00	4.24	4.24	4.00	3.88	3.68	3.36
	11.80	13.00	4.40	4.32	4.00	3.88	3.68	3.36
	13.70	15.00	4.52	4.32	4.00	3.88	3.68	3.36
4.50	-15.00	-14.70	3.15	3.15	3.15	3.15	3.15	3.15
	-13.00	-12.60	3.35	3.35	3.35	3.35	3.35	3.35
	-11.00	-10.50	3.50	3.50	3.50	3.50	3.50	3.50
	-10.00	-9.50	3.65	3.65	3.65	3.65	3.65	3.65
	-9.10	-8.50	3.75	3.75	3.75	3.75	3.75	3.75
	-7.60	-7.00	3.80	3.80	3.80	3.80	3.80	3.80
	-5.60	-5.00	3.95	3.95	3.95	3.95	3.95	3.95
	-3.70	-3.00	4.15	4.15	4.15	4.15	4.15	4.15
	-0.70	0.00	4.45	4.45	4.45	4.45	4.45	4.20
	2.20	3.00	4.70	4.70	4.70	4.70	4.60	4.20
	4.10	5.00	4.85	4.85	4.85	4.85	4.60	4.20
	6.00	7.00	5.00	5.00	5.00	4.85	4.60	4.20
	7.90	9.00	5.15	5.15	5.00	4.85	4.60	4.20
	9.80	11.00	5.30	5.30	5.00	4.85	4.60	4.20
	11.80	13.00	5.50	5.40	5.00	4.85	4.60	4.20
	13.70	15.00	5.65	5.40	5.00	4.85	4.60	4.20
5.60	-15.00	-14.70	3.97	3.97	3.97	3.97	3.97	3.97
	-13.00	-12.60	4.22	4.22	4.22	4.22	4.22	4.22
	-11.00	-10.50	4.41	4.41	4.41	4.41	4.41	4.41
	-10.00	-9.50	4.60	4.60	4.60	4.60	4.60	4.60
	-9.10	-8.50	4.73	4.73	4.73	4.73	4.73	4.73
	-7.60	-7.00	4.79	4.79	4.79	4.79	4.79	4.79
	-5.60	-5.00	4.98	4.98	4.98	4.98	4.98	4.98
	-3.70	-3.00	5.23	5.23	5.23	5.23	5.23	5.23
	-0.70	0.00	5.61	5.61	5.61	5.61	5.61	5.29
	2.20	3.00	5.92	5.92	5.92	5.92	5.80	5.29
	4.10	5.00	6.11	6.11	6.11	6.11	5.80	5.29
	6.00	7.00	6.30	6.30	6.30	6.11	5.80	5.29
	7.90	9.00	6.49	6.49	6.30	6.11	5.80	5.29
	9.80	11.00	6.68	6.68	6.30	6.11	5.80	5.29
	11.80	13.00	6.93	6.80	6.30	6.11	5.80	5.29
	13.70	15.00	7.12	6.80	6.30	6.11	5.80	5.29

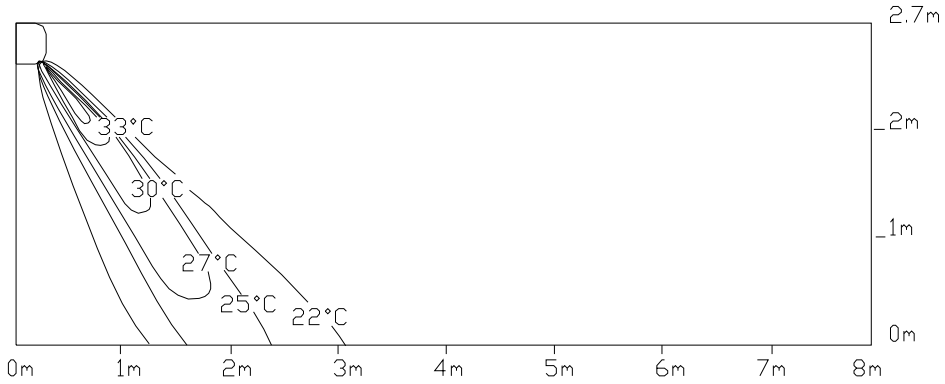
7. Velocity and Temperature Distribution

Discharge angle 70º

Airflow velocity



Temperature



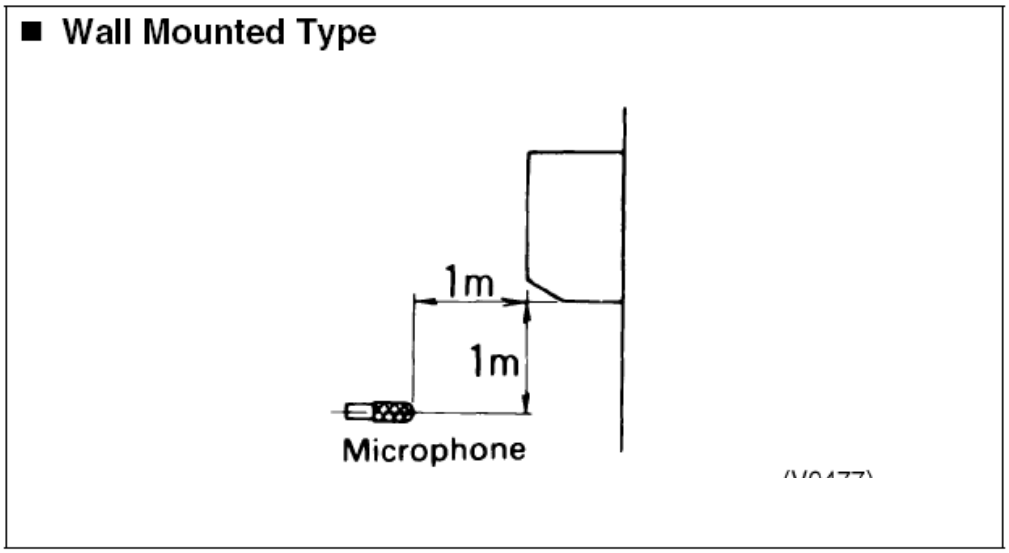
8. Electric Characteristics

Model	Indoor Unit				Power Supply
	Hz	Voltage	Min.	Max.	MFA
MDV-D22G/N1Y	50	220-240V	198	254	15A
MDV-D28G/N1Y	50	220-240V	198	254	15A
MDV-D36G/N1Y	50	220-240V	198	254	15A
MDV-D45G/N1Y	50	220-240V	198	254	15A
MDV-D56G/N1Y	50	220-240V	198	254	15A
MDV-D22G/DN1Y	50	220-240V	198	254	15A
MDV-D28G/DN1Y	50	220-240V	198	254	15A
MDV-D36G/DN1Y	50	220-240V	198	254	15A
MDV-D45G/DN1Y	50	220-240V	198	254	15A
MDV-D56G/DN1Y	50	220-240V	198	254	15A

Remark:
MFA: Max. Fuse Amps. (A)

9. Sound Levels

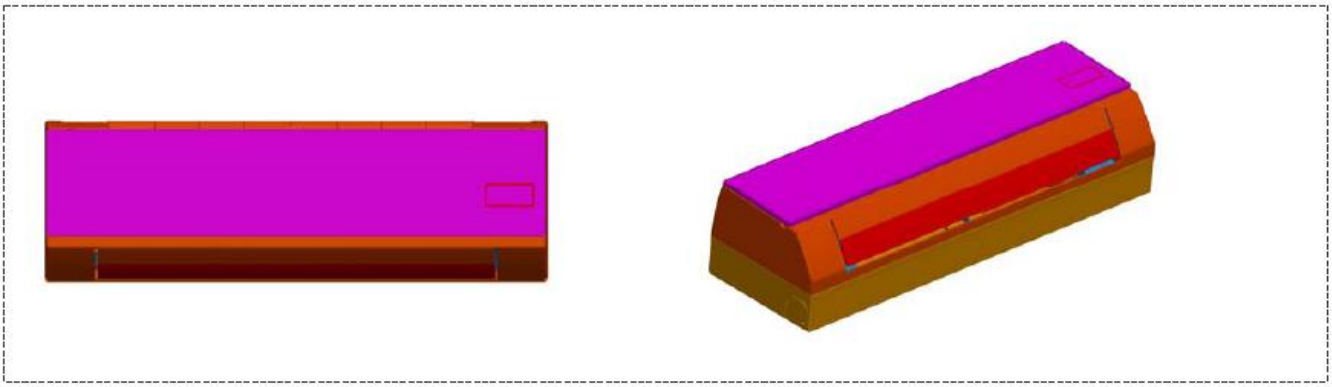
9.1 Test condition

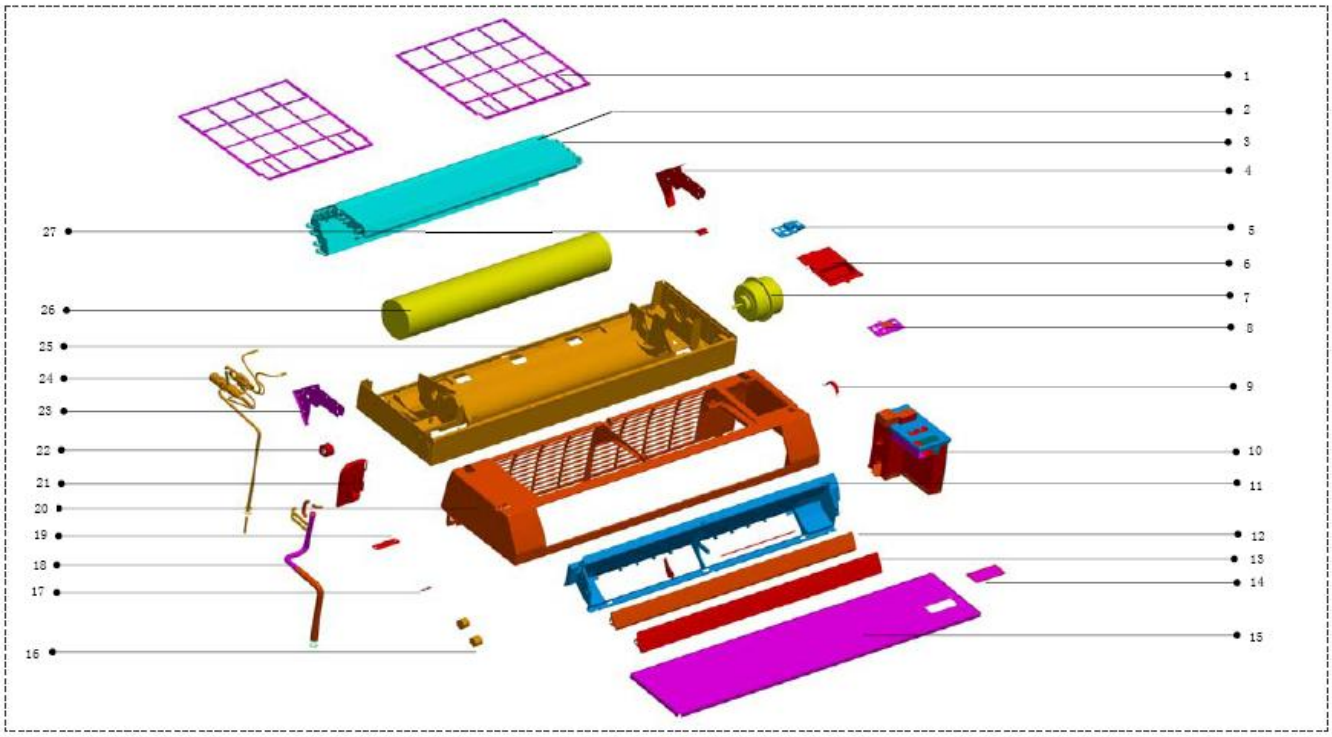


Unit Number	Model	Noise level under three speeds of fan (dB(A))		
		H	M	L
1	MDV-D22G/N1Y	35	32	29
2	MDV-D28G/N1Y	35	32	29
3	MDV-D36G/N1Y	35	32	29
4	MDV-D45G/N1Y	40	38	34
5	MDV-D56G/N1Y	40	38	34
6	MDV-D22G/DN1Y	35	32	29
7	MDV-D28G/DN1Y	35	32	29
8	MDV-D36G/DN1Y	35	32	29
9	MDV-D45G/DN1Y	40	38	34
10	MDV-D56G/DN1Y	40	38	34

10. Exploded View

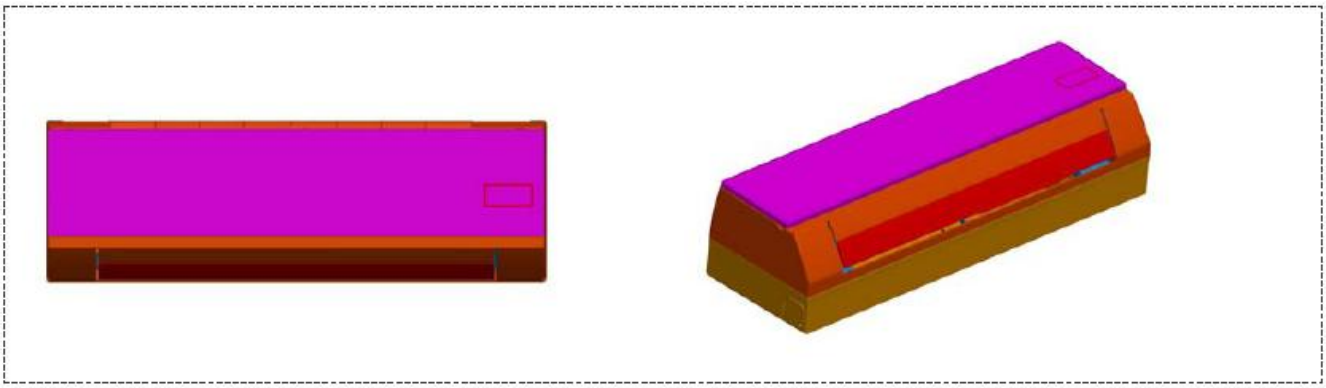
10.1 MDVD-D22G/N1Y MDVD-D28G/N1Y MDVD-D36G/N1Y

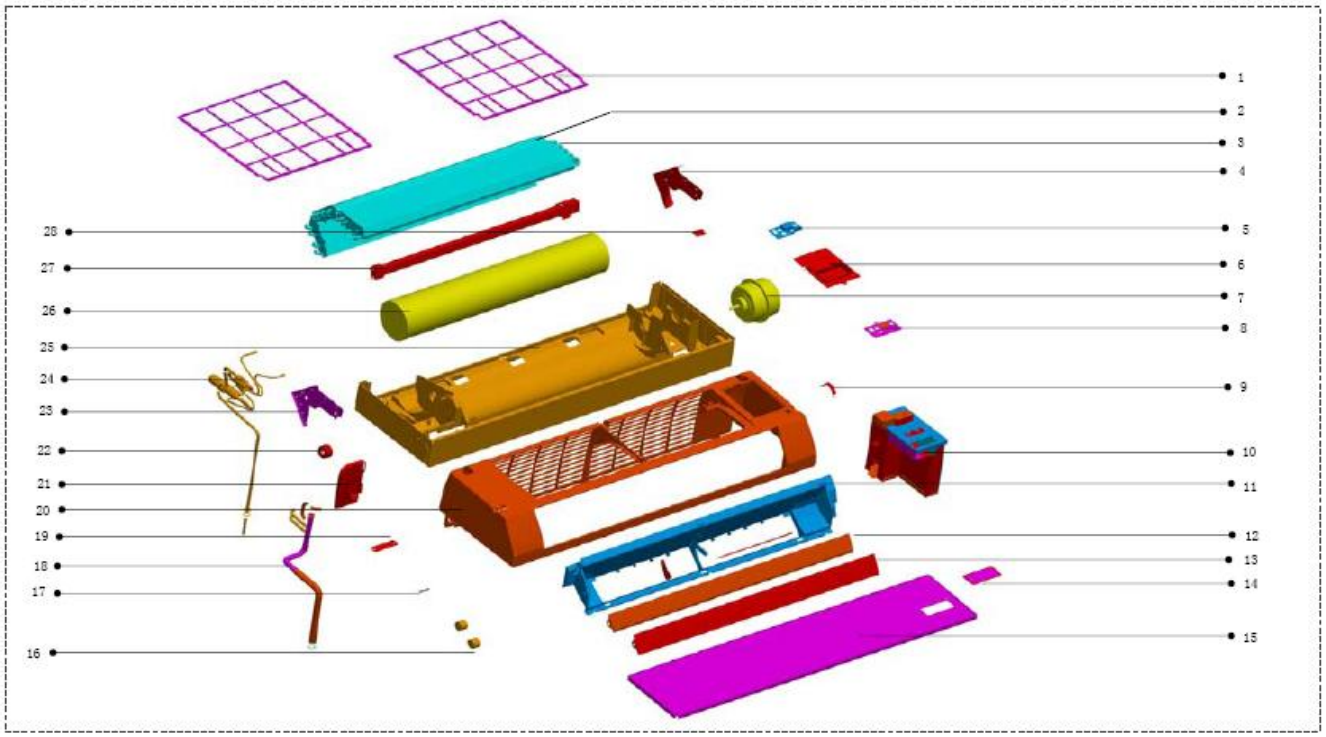




No.	Part name	Quantity	No.	Part name	Quantity
1	Air filter	2	10.10	Wire joint	1
2	Evaporator temp sensor	1	11	Air out frame	1
3	Evaporator	1	12	Horizontal louver，up	1
4	Right joint board of Evaporator	1	13	Horizontal louver，down	1
5	Display board	1	14	Front decorate panel	1
6	Window cover for repairing	1	15	Front panel	1
7	Fan motor	1	16	Louver motor	1
8	Display board cover	1	17	Screw cap	3
9	Motor clamp	2	18	Outlet pipe for evaporator	1
10	E-Parts box	1	18.1	Evaporator temp sensor	1
10.1	Plate for main board	1	19	Pipe clamp 1	1
10.2	Separating board for E-part box	1	20	Panel frame	1
10.3	Base for E-part box	1	21	Water collector	1
10.4	E-part box cover	1	22	Bearing holder	1
10.5	Number control board	1	23	Left joint board of Evaporator	1
10.6	Transformer	1	24	Inlet pipe for evaporator	1
10.7	Wire joint	1	25	Chassis	1
10.8	Main control board	1	26	Cross flow fan	1
10.9	Fan motor capacitor	1	27	Protector for temp sensor	1

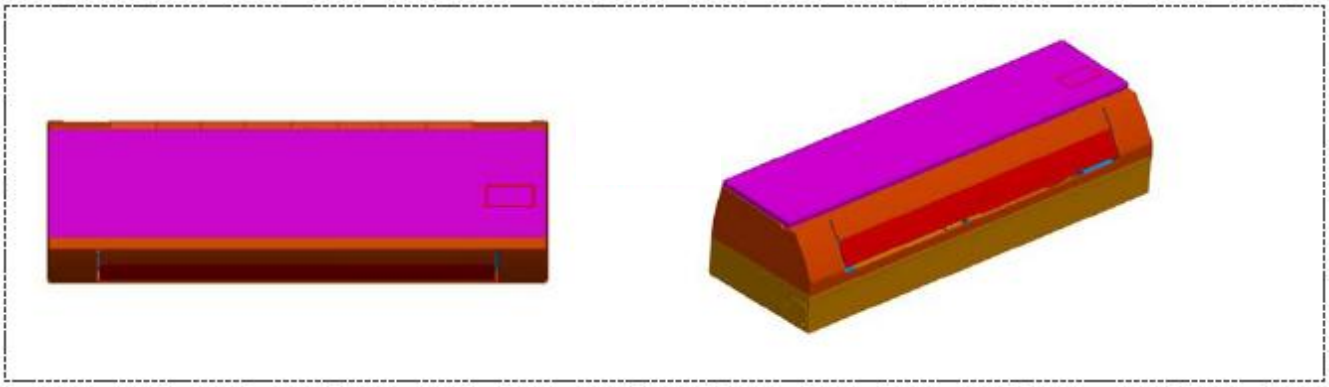
10.2 MDVD-D22G/DN1Y MDVD-D28G/DN1Y MDVD-D36G/DN1Y

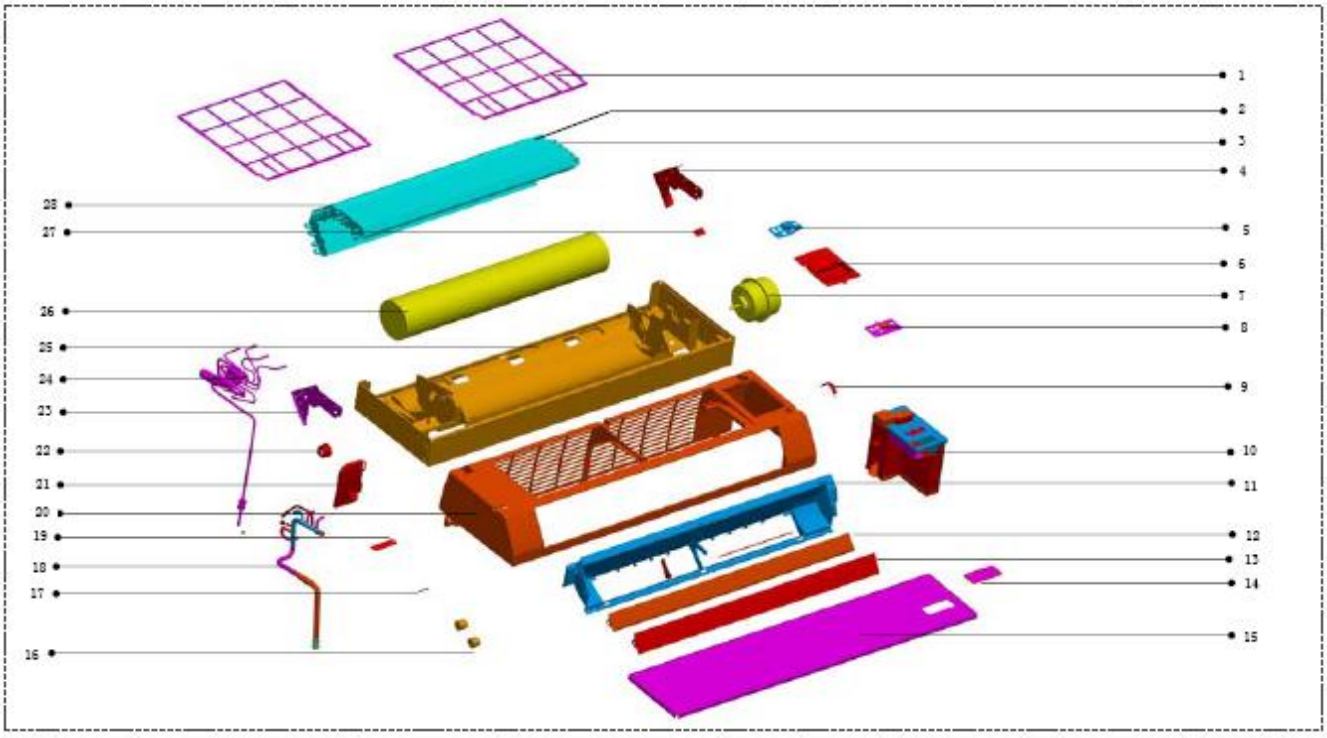




No.	Part name	Quantity	No.	Part name	Quantity
1	Air filter	2	11	Air out frame	1
2	Evaporator temp sensor	1	12	Horizontal louver，up	1
3	Evaporator	1	13	Horizontal louver，down	1
4	Right joint board of Evaporator	1	14	Front decorate panel	1
5	Display board	1	15	Front panel	1
6	Window cover for repairing	1	16	Louver motor	1
7	Fan motor	1	17	Screw cap	3
8	Display board cover	1	18	Outlet pipe for evaporator	1
9	Motor clamp	2	18.1	Evaporator temp sensor	1
10	E-Parts box	1	19	Pipe clamp 1	1
10.1	Plate for main board	1	20	Panel frame	1
10.2	Separating board for E-part box	1	21	Water collector	1
10.3	Base for E-part box	1	22	Bearing holder	1
10.4	E-part box cover	1	23	Left joint board of Evaporator	1
10.5	Number control board	1	24	Inlet pipe for evaporator	1
10.6	Transformer	1	25	Chassis	1
10.7	Wire joint	1	26	Cross flow fan	1
10.8	Main control board	1	27	PTC heater	1
10.9	Fan motor capacitor	1	28	Protector for temp sensor	1
10.10	Wire joint	1			

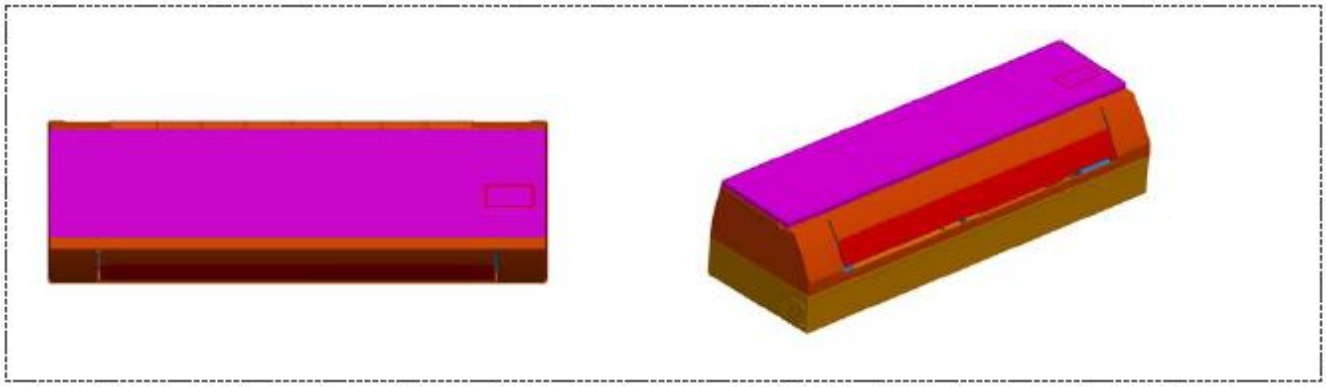
10.3 MDV-D45G/N1Y MDV-D56G/N1Y

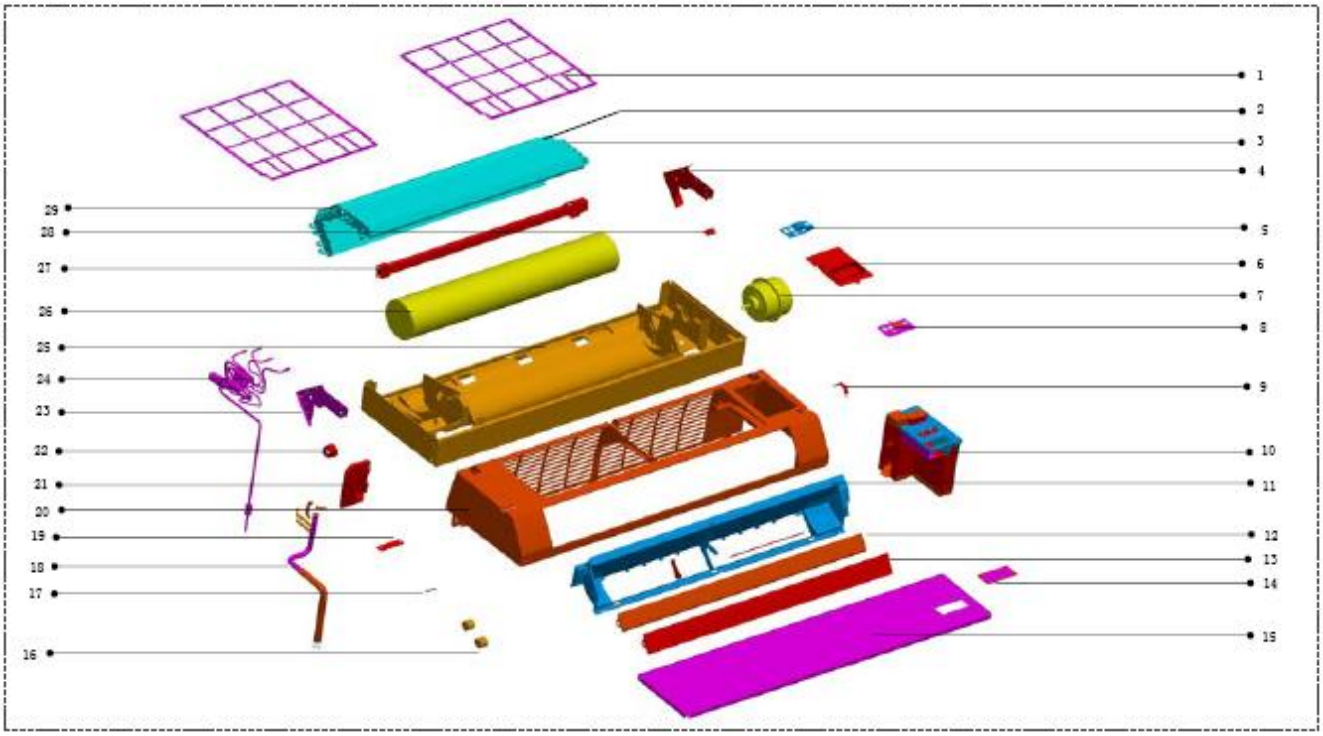




No.	Part name	Quantity	No.	Part name	Quantity
1	Air filter	2	11	Air out frame	1
2	Evaporator temp sensor	1	12	Horizontal louver，up	1
3	Evaporator 1	1	13	Horizontal louver，down	1
4	Right joint board of Evaporator	1	14	Front decorate panel	1
5	Display board	1	15	Front panel	1
6	Window cover for repairing	1	16	Louver motor	1
7	Fan motor	1	17	Screw cap	3
8	Display board cover	1	18	Outlet pipe for evaporator	1
9	Motor clamp	2	18.1	Evaporator temp sensor	1
10	E-Parts box	1	19	Pipe clamp 1	1
10.1	Plate for main board	1	20	Panel frame	1
10.2	Separating board for E-part box	1	21	Water collector	1
10.3	Base for E-part box	1	22	Bearing holder	1
10.4	E-part box cover	1	23	Left joint board of Evaporator	1
10.5	Number control board	1	24	Inlet pipe for evaporator	1
10.6	Transformer	1	25	Chassis	1
10.7	Wire joint	1	26	Cross flow fan	1
10.8	Main control board	1	27	Protector for temp sensor	1
10.9	Fan motor capacitor	1	28	Evaporator 2	2
10.10	Wire joint	1			

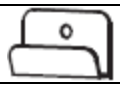
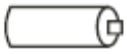
10.4 MDV-D45G/DN1Y MDV-D56G/DN1Y





No.	Part name	Quantity	No.	Part name	Quantity
1	Air filter	2	11	Air out frame	1
2	Evaporator temp sensor	1	12	Horizontal louver，up	1
3	Evaporator 1	1	13	Horizontal louver，down	1
4	Right joint board of Evaporator	1	14	Front decorate panel	1
5	Display board	1	15	Front panel	1
6	Window cover for repairing	1	16	Louver motor	1
7	Fan motor	1	17	Screw cap	3
8	Display board cover	1	18	Outlet pipe for evaporator	1
9	Motor clamp	2	18.1	Evaporator temp sensor	1
10	E-Parts box	1	19	Pipe clamp 1	1
10.1	Plate for main board	1	20	Panel frame	1
10.2	Separating board for E-part box	1	21	Water collector	1
10.3	Base for E-part box	1	22	Bearing holder	1
10.4	E-part box cover	1	23	Left joint board of Evaporator	1
10.5	Number control board	1	24	Inlet pipe for evaporator	1
10.6	Transformer	1	25	Chassis	1
10.7	Wire joint	1	26	Cross flow fan	1
10.8	Main control board	1	27	PTC heater	1
10.9	Fan motor capacitor	1	28	Protector for temp sensor	1
10.10	Wire joint	1	29	Evaporator 2	2

11. Accessories

Name	Shape	Quantity	Function
Installation board		2	/
Screw ST3.9x25 for installation board		3	Secure the installation board
Plastic expanded tube		3	/
Wrapping tape		1	/
Drain pipe		2	/
Sealing clay		2	/
Wall conduit cover		1	/
Remote controller (including operation manual)	/	1	/
Frame		1	Hold the remote controller
Mounting screw(ST2.9 10-C-H)		2	Installation Holder for remote controller
Alkaline dry batteries (AM4)		2	/
Owner's manual	/	1	/
Installation manual	/	1	/

Exposed & Concealed Floor-standing Type

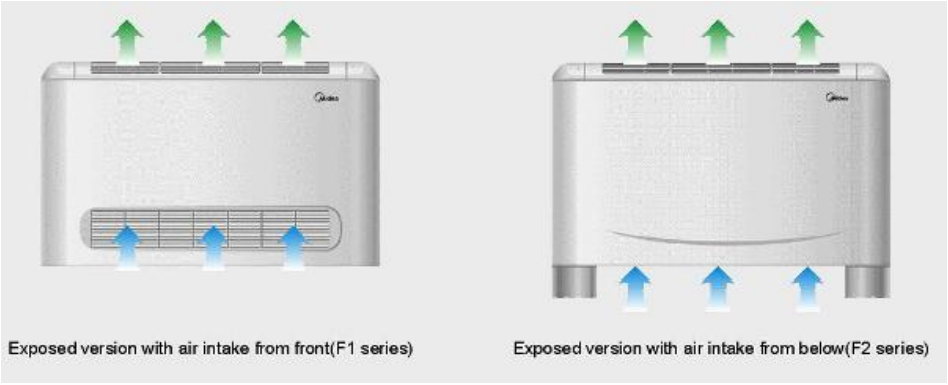
1. Features....171
2. Nomenclature....172
3. Specifications....172
4. Dimensions....172
5. Service Space....172
6. Piping Diagram....172
7. Wiring Diagram....172
8. Capacity Tables....172
9. Electric Characteristics....172
10. Sound Levels....172
11. Exploded View....172
12. Accessories....172

1. Features

Exposed

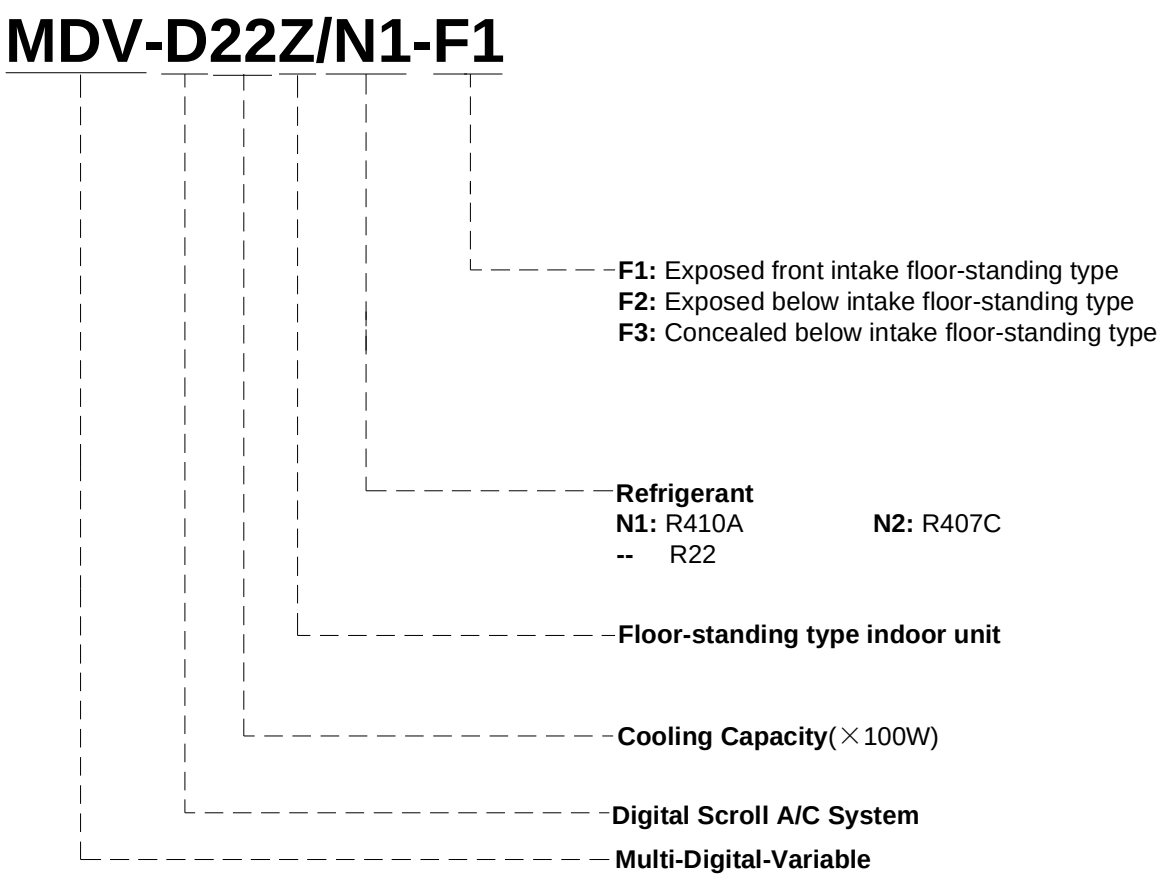
Concealed

1. Two intake directions: front and below.



2. Built-in the electronic throttle kit
3. Three speeds
4. Low noise operation.
5. Easy installation and maintenance.
6. Air filter easily removed and cleaned
7. Removable blades for easy and effective cleaning
8. Streamlined appearances, flowing lines.
9. All metal parts are made of commercial grade galvanized steel, providing maximum protection against corrosion.

2. Nomenclature



3. Specifications

Model			MDV-D22Z/N1-F1	MDV-D22Z/N1-F2	MDV-D22Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	2.2	2.2	2.2
	Input	W	40	40	40
	Rated current	A	0.19	0.19	0.19
Heating	Capacity	kW	2.6	2.6	2.6
	Input	W	40	40	40
	Rated current	A	0.19	0.19	0.19
Indoor fan motor	Model		YSK20-4A	YSK20-4A	YSK20-4A
	Type		AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling
	Input	W	42/37/34	42/37/34	42/37/34
	Capacitor	μF	0.8	0.8	0.8
	Speed (hi/mid/lo)	r/min	935/810/720	935/810/720	935/810/720
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	Mm	25.4x22	25.4x22	25.4x22
	Fin spacing	Mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.53 innergroove tube	Φ9.53 innergroove tube	Φ9.53 innergroove tube
	Coil length x height x width	mm	568 x254 x44	568 x254 x44	568 x254 x44
	Number of circuits		3	3	3
Indoor air flow (H/M/L)		m^3/h	530/456/400	530/456/400	530/456/400
Indoor external static pressure (Hi)		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	37/35/33	37/35/33	37/35/33
Indoor unit	Dimension (WxHxD)	mm	1000×220×625	1000×220×625	840×212×544
	Packing (WxHxD)	mm	1089X722X312	1179X722X312	939X639X305
	Net/Gross weight	kg	30/35	30/38	26/29.5
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Connecting wiring	Power wiring	$Nb×mm^2$	3×2.5(L≤20m)；3×3.5(L≤50m)		
	Signal wiring	$Nb×mm^2$	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E) (standard)		
Operation temp		℃	17-30		
Application area		m^2	8~15	8~15	8~15

Notes:

1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model			MDV-D28Z/N1-F1	MDV-D28Z/N1-F2	MDV-D28Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	2.8	2.8	2.8
	Input	W	46	46	46
	Rated current	A	0.2	0.2	0.2
Heating	Capacity	kW	3.2	3.2	3.2
	Input	W	46	46	46
	Rated current	A	0.2	0.2	0.2
Indoor fan motor	Model		YSK20-4A	YSK20-4A	YSK20-4A
	Type		AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling
	Input	W	42/37/34	42/37/34	42/37/34
	Capacitor	μF	1.0	1.0	1.0
	Speed (hi/mid/lo)	r/min	935/810/720	935/810/720	935/810/720
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.53 Inner groove tube	Φ9.53 Inner groove tube	Φ9.53 Inner groove tube
	Coil length x height x width	mm	568 x254 x44	568 x254 x44	568 x254 x44
	Number of circuits		3	3	3
Indoor air flow (H/M/L)		m^3/h	569/485/421	569/485/421	569/485/421
Indoor external static pressure (Hi)		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	37/35/33	37/35/33	37/35/33
Indoor unit	Dimension (WxHxD)	mm	1000×220×625	1000×220×625	840×212×544
	Packing (WxHxD)	mm	1089X722X312	1179X722X312	939X639X305
	Net/Gross weight	kg	30/35	30/38	26/29.5
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Connecting wiring	Power wiring	$Nb×mm^2$	3×2.5(L≤20m)；3×3.5(L≤50m)		
	Signal wiring	$Nb×mm^2$	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		℃	17-30		
Application area		m^2	11~18	11~18	11~18

Notes:

1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model			MDV-D36Z/N1-F1	MDV-D36Z/N1-F2	MDV-D36Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	3.6	3.6	3.6
	Input	W	35	35	35
	Rated current	A	0.15	0.15	0.15
Heating	Capacity	kW	4.0	4.0	4.0
	Input	W	35	35	35
	Rated current	A	0.15	0.15	0.15
Indoor fan motor	Model		YSK20-6	YSK20-6	YSK20-6
	Type		AC motor	AC motor	AC motor
	Brand		Yongan	Yongan	Yongan
	Input	W	49/40/34	49/40/34	49/40/34
	Capacitor	μF	1.2	1.2	1.2
	Speed (hi/mid/lo)	r/min	820/745/600	820/745/600	820/745/600
Indoor coil	Number of rows		3	3	3
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.53 innergroove tube	Φ9.53 innergroove tube	Φ9.53 innergroove tube
	Coil length x height x width	mm	768 x254 x66	768 x254 x66	768 x254 x66
	Number of circuits		3	3	3
Indoor air flow (H/M/L)		m^3/h	624/522/375	624/522/375	624/522/375
Indoor external static pressure (Hi)		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	39/37/35	39/37/35	39/37/35
Indoor unit	Dimension (WxHxD)	mm	1200×220×625	1200×220×625	1036×212×544
	Packing (WxHxD)	mm	1289X722X312	1379X722X312	1139X639X305
	Net/Gross weight	Kg	37/43	37/46	29.5/34
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Connecting wiring	Power wiring	$Nb×mm^2$	3×2.5(L≤20m)；3×3.5(L≤50m)		
	Signal wiring	$Nb×mm^2$	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		℃	17-30		
Application area		m^2	14～24	14～24	14～24

Notes:

1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model			MDV-D45Z/N1-F1	MDV-D45Z/N1-F2	MDV-D45Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	4.5	4.5	4.5
	Input	W	49	49	49
	Rated current	A	0.22	0.22	0.22
Heating	Capacity	kW	5.0	5.0	5.0
	Input	W	49	49	49
	Rated current	A	0.22	0.22	0.22
Indoor fan motor	Model		YSK20-6	YSK20-6	YSK20-6
	Type		AC motor	AC motor	AC motor
	Brand		Yongan	Yongan	Yongan
	Input	W	49/40/34	49/40/34	49/40/34
	Capacitor	μF	1.2	1.2	1.2
	Speed (hi/mid/lo)	r/min	820/745/600	820/745/600	820/745/600
Indoor coil	Number of rows		3	3	3
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.53 innergroove tube	Φ9.53 innergroove tube	Φ9.53 innergroove tube
	Coil length x height x width	mm	768 x254 x66	768 x254 x66	768 x254 x66
	Number of circuits		3	3	3
Indoor air flow (H/M/L)		m^3/h	660/542/440	660/542/440	660/542/440
Indoor external static pressure (Hi)		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	39/37/35	39/37/35	39/37/35
Indoor unit	Dimension (WxHxD)	mm	1200×220×625	1200×220×625	1036×212×544
	Packing (WxHxD)	mm	1289X722X312	1379X722X312	1139X639X305
	Net/Gross weight	Kg	37/43	37/46	29.5/34
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ6.35/Φ12.7	Φ6.35/Φ12.7	Φ6.35/Φ12.7
Connecting wiring	Power wiring	$Nb×mm^2$	3×2.5(L≤20m)；3×3.5(L≤50m)		
	Signal wiring	$Nb×mm^2$	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		℃	17-30		
Application area		m^2	18～30	18～30	18～30

Notes:

1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model			MDV-D56Z/N1-F1	MDV-D56Z/N1-F2	MDV-D56Z/N1-F3
Power supply		V-Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	5.6	5.6	5.6
	Input	W	88	88	88
	Rated current	A	0.38	0.38	0.38
Heating	Capacity	kW	6.3	6.3	6.3
	Input	W	88	88	88
	Rated current	A	0.38	0.38	0.38
Indoor fan motor	Model		YSK28-4E	YSK28-4E	YSK28-4E
	Type		AC motor	AC motor	AC motor
	Brand		Welling	Welling	Welling
	Input	W	95/77/67	95/77/67	95/77/67
	Capacitor	μF	2.5	2.5	2.5
	Speed (hi/mid/lo)	r/min	915/770/660	915/770/660	915/770/660
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.53 innergroove tube	Φ9.53 innergroove tube	Φ9.53 innergroove tube
	Coil length x height x width	mm	1068 x 254 x 44	1068 x 254 x 44	1068 x 254 x 44
	Number of circuits		4	4	4
Indoor air flow (H/M/L)		m^3/h	1150/970/830	1150/970/830	1150/970/830
Indoor external static pressure (Hi)		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	41/39/37	41/39/37	41/39/37
Indoor unit	Dimension (WxHxD)	mm	1500×220×625	1500×220×625	1336×212×544
	Packing (WxHxD)	mm	1589X722X312	1679X722X312	1439X639X305
	Net/Gross weight	kg	44/50	44/53	36/40
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9	Φ9.53/Φ15.9
Connecting wiring	Power wiring	$Nb×mm^2$	3×2.5(L≤20m)；3×3.5(L≤50m)		
	Signal wiring	$Nb×mm^2$	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		℃	17-30		
Application area		m^2	22～37	22～37	22～37

Notes:

1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°C WB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

Model			MDV-D71Z/N1-F1	MDV-D71Z/N1-F2	MDV-D71Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	7.1	7.1	7.1
	Input	W	130	130	130
	Rated current	A	0.57	0.57	0.57
Heating	Capacity	kW	8.0	8.0	8.0
	Input	W	130	130	130
	Rated current	A	0.57	0.57	0.57
Indoor fan motor	Model		YSK74-4E	YSK74-4E	YSK74-4E
	Type		AC motor	AC motor	AC motor
	Brand		Yongan	Yongan	Yongan
	Input	W	138.5/119/97	138.5/119/97	138.5/119/97
	Capacitor	μF	3	3	3
	Speed (hi/mid/lo)	r/min	1120/1020/880	1120/1020/880	1120/1020/880
Indoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.53 innergroove tube	Φ9.53 innergroove tube	Φ9.53 innergroove tube
	Coil length x height x width	mm	1068 x 254 x 44	1068 x 254 x 44	1068 x 254 x 44
	Number of circuits		4	4	4
Indoor air flow (H/M/L)		m^3/h	1380/1100/870	1380/1100/870	1380/1100/870
Indoor external static pressure (Hi)		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	43/41/38	43/41/38	43/41/38
Indoor unit	Dimension (WxHxD)	mm	1500×220×625	1500×220×625	1336×212×545
	Packing (WxHxD)	mm	1589X722X312	1679X722X312	1439X639X305
	Net/Gross weight	kg	44/50	44/53	36/40
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.53/Φ15.9	Φ9.53/Φ15.9	Φ9.53/Φ15.9
Connecting wiring	Power wiring	$Nb×mm^2$	3×2.5(L≤20m)；3×3.5(L≤50m)		
	Signal wiring	$Nb×mm^2$	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		℃	17-30		
Application area		m^2	28～47	28～47	28～47

Notes:

1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

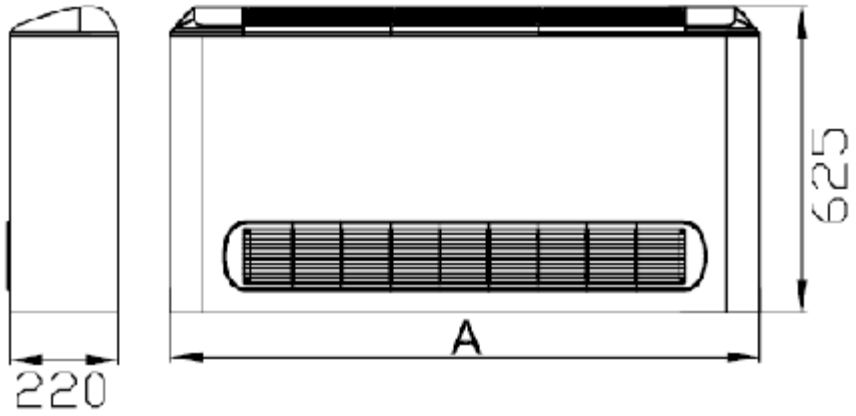
Model			MDV-D80Z/N1-F1	MDV-D80Z/N1-F2	MDV-D80Z/N1-F3
Power supply		V- Ph-Hz	220-240V, 1Ph, 50Hz		
Cooling	Capacity	kW	8.0	8.0	8.0
	Input	W	130	130	130
	Rated current	A	0.56	0.56	0.56
Heating	Capacity	kW	9.0	9.0	9.0
	Input	W	130	130	130
	Rated current	A	0.56	0.56	0.56
Indoor fan motor	Model		YSK74-4E	YSK74-4E	YSK74-4E
	Type		AC motor	AC motor	AC motor
	Brand		Yongan	Yongan	Yongan
	Input	W	138.5/119/97	138.5/119/97	138.5/119/97
	Capacitor	μF	3	3	3
	Speed (hi/mid/lo)	r/min	1120/1020/880	1120/1020/880	1120/1020/880
Indoor coil	Number of rows		3	3	3
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.8	1.8	1.8
	Fin type		Hydrophilic aluminum		
	Tube outside dia. and type	mm	Φ9.53 innergroove tube	Φ9.53 innergroove tube	Φ9.53 innergroove tube
	Coil length x height x width	mm	1068×66×254	1068×66×254	1068×66×254
	Number of circuits		3	3	3
Indoor air flow (H/M/L)		m^3/h	1332/1212/1023	1332/1212/1023	1332/1212/1023
Indoor external static pressure (Hi)		Pa	12	12	12
Indoor noise level (Hi/Mid/Lo) (Sound pressure)		dB(A)	43/41/38	43/41/38	43/41/38
Indoor unit	Dimension (WxHxD)	mm	1500×220×625	1500×220×625	1336×212×545
	Packing (WxHxD)	mm	1589X722X312	1679X722X312	1439X639X305
	Net/Gross weight	kg	44/50	44/53	36/40
Refrigerant type			R410A	R410A	R410A
Throttle			Electric expansive valve		
Design pressure		MPa	2.5/4.4	2.5/4.4	2.5/4.4
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ9.53/Φ15.9	Φ9.53/Φ15.9	Φ9.53/Φ15.9
Connecting wiring	Power wiring	$Nb×mm^2$	3×2.5(L≤20m)；3×3.5(L≤50m)		
	Signal wiring	$Nb×mm^2$	3×1.0	3×1.0	3×1.0
Drainage water pipe dia.		mm	Φ25	Φ25	Φ25
Controller			Wireless remote controller (R51/E)(standard)		
Operation temp		℃	17-30		
Application area		m^2	32～53	32～53	32～53

Notes:

1. Nominal cooling capacities are based on the following conditions: return air temp.: 27°CDB, 19°CWB, and outdoor temp.:35°CDB, equivalent ref. piping: 8m (horizontal)
2. Nominal heating capacities are based on the following conditions: return air temp.: 20°CDB, outdoor temp.: 7°CDB, 6°CWB, and equivalent ref. Piping: 8m (horizontal)

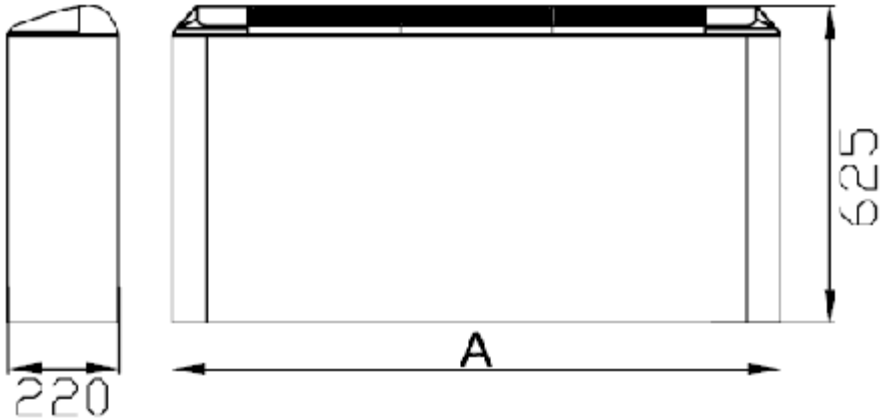
4. Dimensions

4.1 Exposed floor standing (air inlet from front)



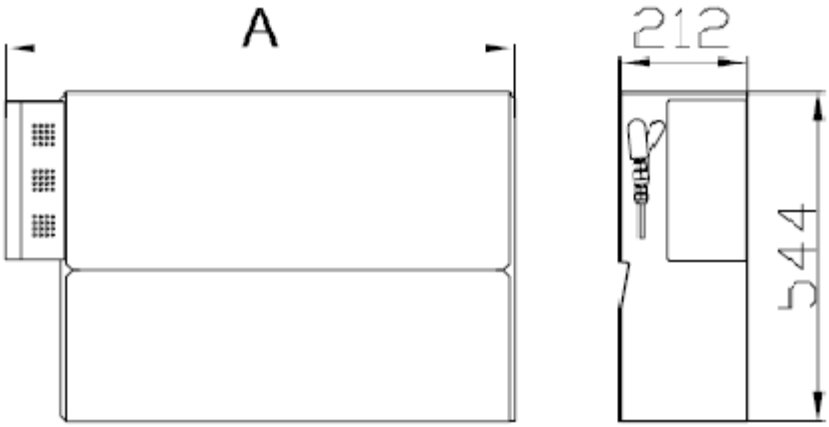
No	Model	A (mm)
1	MDV-D22Z/N1-F1	1000
2	MDV-D28Z/N1-F1	1000
3	MDV-D36Z/N1-F1	1200
4	MDV-D45Z/N1-F1	1200
5	MDV-D56Z/N1-F1	1500
6	MDV-D71Z/N1-F1	1500
7	MDV-D80Z/N1-F1	1500

4.1 Exposed floor standing(air inlet from below)



No	Model	A (mm)
1	MDV-D22Z/N1-F2	1000
2	MDV-D28Z/N1-F2	1000
3	MDV-D36Z/N1-F2	1200
4	MDV-D45Z/N1-F2	1200
5	MDV-D56Z/N1-F2	1500
6	MDV-D71Z/N1-F2	1500
7	MDV-D80Z/N1-F2	1500

4.3 Concealed floor standing

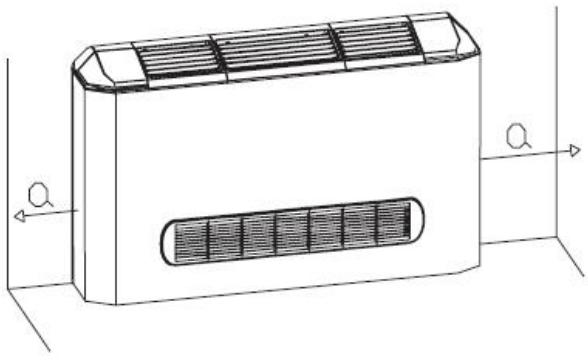


No	Model	A (mm)
1	MDV-D22Z/N1-F3	840
2	MDV-D28Z/N1-F3	840
3	MDV-D36Z/N1-F3	1036
4	MDV-D45Z/N1-F3	1036
5	MDV-D56Z/N1-F3	1336
6	MDV-D71Z/N1-F3	1336
7	MDV-D80Z/N1-F3	1336

5. Service Space

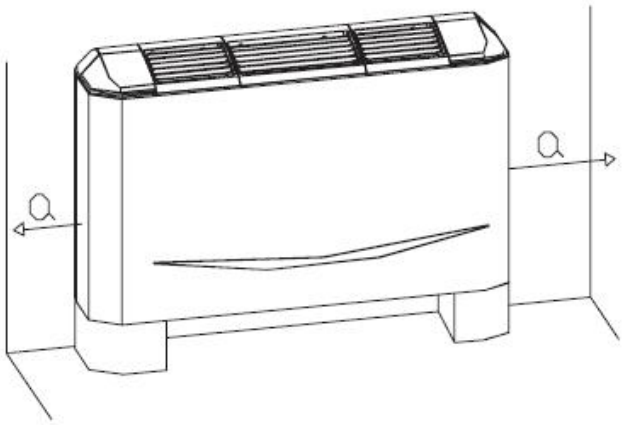
Version Ⅰ

Vertical unit with casing, with air intake from front and air outlet on top, for installation on a wall or on feet on the floor.



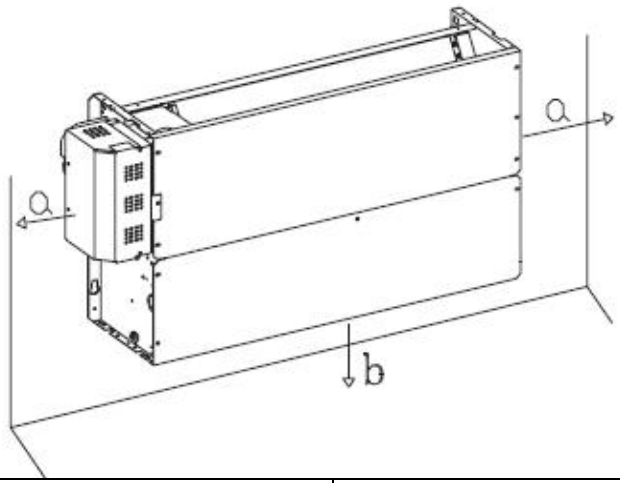
Version Ⅱ

Vertical unit with casing, with air intake from below and air outlet on top, for installation on a wall or on feet on the floor.



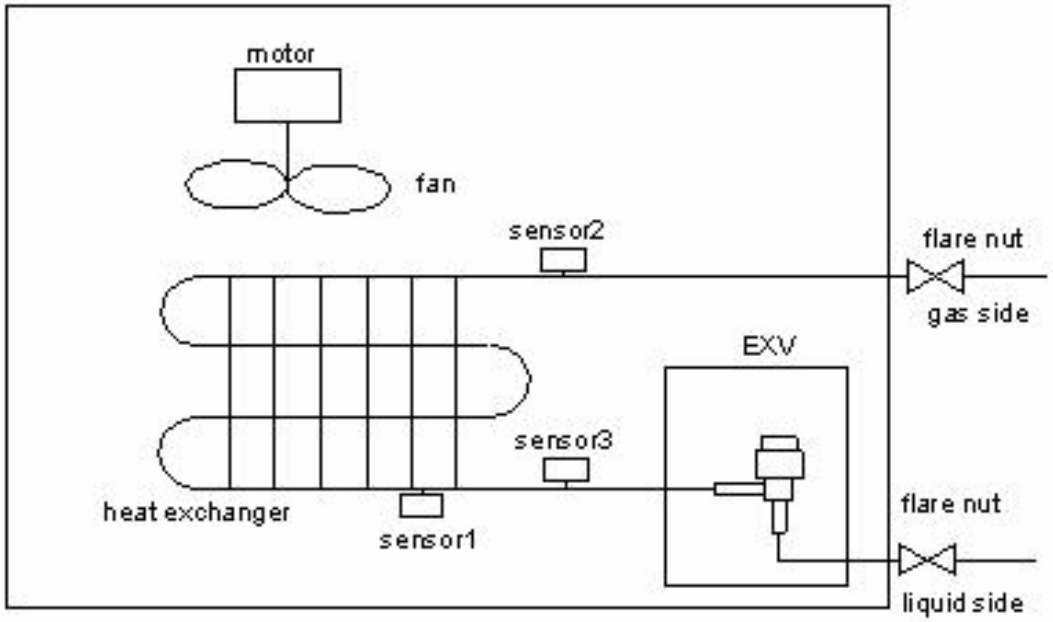
Version Ⅲ

Vertical unit for building-in, with air intake from below and air delivery at the top, for installation on a wall.



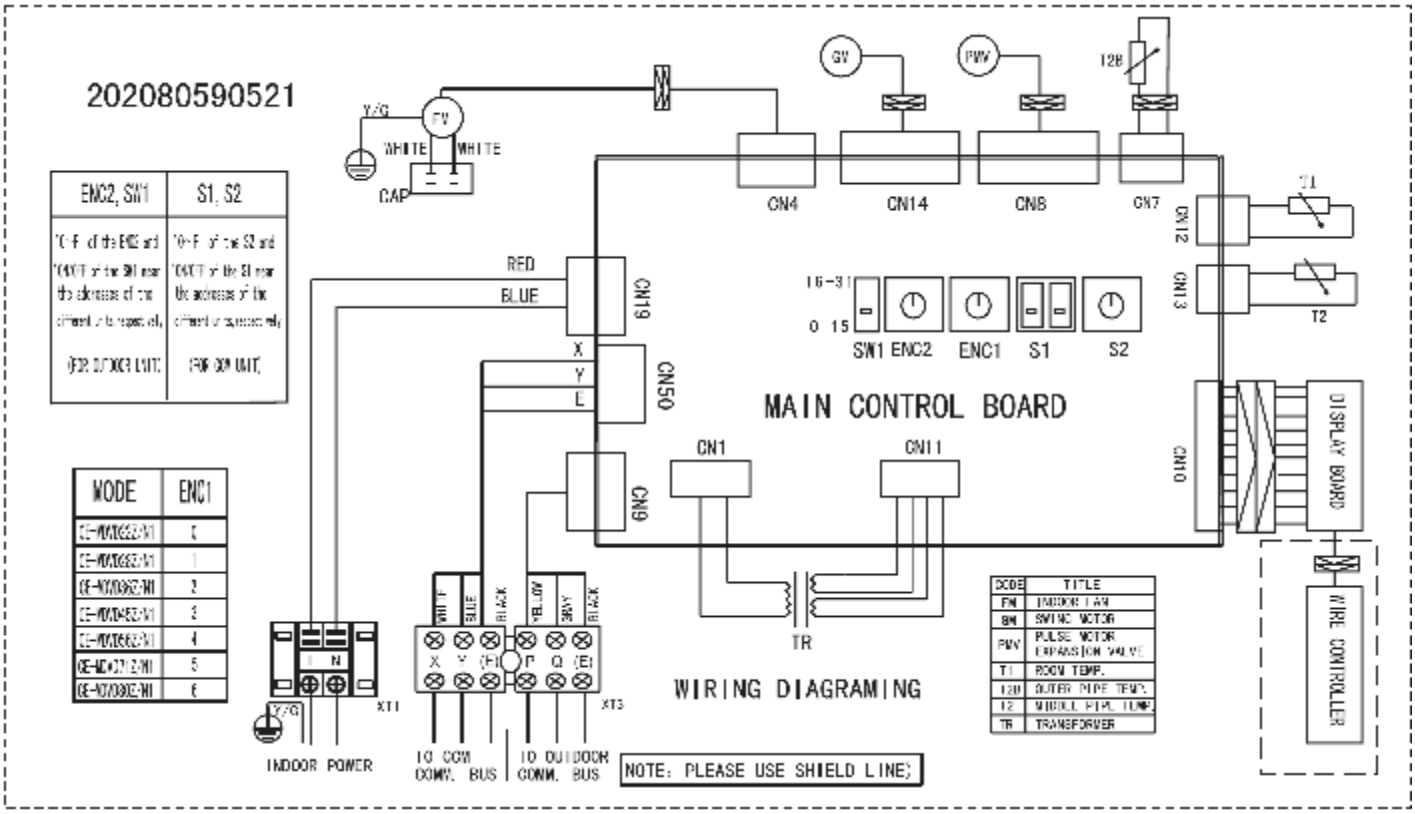
Version	Version Ⅰ	Version Ⅱ	Version Ⅲ
a(mm)	≥150	≥150	≥200
b(mm)	/	/	≥80

6. Piping Diagram



Sensor1: T2
Sensor2: T2B
Sensor3: T1

7. Wiring Diagram



8. Capacity Tables

8.1 Cooling

TC: total capacity **SH**: sensible capacity

Indoor Unit size (kW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SH	TC	SH	TC	SH	TC	SH	TC	SH	TC	SH	TC	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
2.2	10.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.9	1.7
	12.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	14.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	16.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	18.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.8	1.6
	20.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	21.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.6	1.7	2.7	1.5
	23.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.7	1.5
	25.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	27.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.5	1.6	2.6	1.5
	29.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	31.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.5	1.5
	33.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.4	1.5	2.4	1.5
	35.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.4	1.5
	37.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.3	1.7	2.3	1.5	2.3	1.5
	39.0	1.5	1.4	1.8	1.5	2.1	1.6	2.2	1.6	2.2	1.6	2.3	1.5	2.3	1.5
2.8	10.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.7	2.1
	12.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	14.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.1
	16.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.6	2.0
	18.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.5	2.0
	20.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	21.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.3	2.1	3.4	1.9
	23.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.1	3.4	1.9
	25.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	27.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.2	2.0	3.3	1.9
	29.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	31.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.2	1.9
	33.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.2	3.1	2.0	3.1	2.0
	35.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	3.1	2.0
	37.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.9	2.1	2.9	1.9	2.9	1.9
	39.0	1.9	1.8	2.3	1.9	2.7	2.0	2.8	2.0	2.8	2.0	2.9	1.9	2.9	1.9
3.6	10.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.8	2.8
	12.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	14.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.6	2.7
	16.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	18.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.5	2.7
	20.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	21.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	23.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.2	2.8	4.4	2.7
	25.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	27.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.1	2.7	4.2	2.6
	29.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.5

Indoor Unit size (kW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SH	TC	SH	TC	SH	TC	SH	TC	SH	TC	SH	TC	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
4.5	31.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.1	2.4
	33.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.9	2.7	4.0	2.6	4.0	2.4
	35.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	4.0	2.4
	37.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.6	3.9	2.3
	39.0	2.4	2.2	3.0	2.5	3.3	2.7	3.6	2.7	3.7	2.6	3.9	2.7	3.9	2.4
	10.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	12.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.9	3.4
	14.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.8	3.3
	16.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	18.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.6	3.2
	20.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.5	3.2
	21.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.4	3.2	5.4	3.1
	23.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.4	3.1
	25.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.2	3.2	5.3	3.0
	27.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.3	3.0
	29.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.0	3.0	5.1	2.9
	31.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	5.1	3.0
	33.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.9	2.9
	35.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.8	3.3	5.3	3.5	4.8	2.8
	37.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9
	39.0	3.1	2.6	3.6	2.9	4.2	3.1	4.5	3.2	4.6	3.2	4.8	3.1	4.8	2.9
5.6	10.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	12.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.3	4.1
	14.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.2	4.1
	16.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	18.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	20.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.1	4.1
	21.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	7.0	4.1
	23.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.6	4.6	6.9	4.0
	25.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.5	4.1	6.8	3.9
	27.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.4	4.0	6.5	3.8
	29.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.3	4.0	6.4	3.7
	31.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.2	3.9	6.3	3.7
	33.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	6.0	3.8	6.3	3.7
	35.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.7	6.2	3.6
	37.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	6.0	4.0	5.9	3.9	6.1	3.5
	39.0	3.9	3.2	4.6	3.5	5.2	3.9	5.6	4.0	5.7	3.8	5.8	3.8	6.0	3.5
7.1	10.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.2	4.9
	12.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.1	4.8
	14.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	9.0	4.8
	16.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.9	4.7
	18.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.7	4.7
	20.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.5	4.6
	21.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.4	4.5
	23.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.3	4.5
	25.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.4	4.9	8.2	4.4

Indoor Unit size (kW)	Outdoor temperature (℃DB)	Indoor temperature (℃WB)													
		14/20		16/23		18/26		19/27		20/28		22/30		24/32	
		TC	SH	TC	SH	TC	SH	TC	SH	TC	SH	TC	SH	TC	SH
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	27.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.1	4.9	8.2	4.4
	29.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	8.0	4.8	8.1	4.5
	31.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.9	4.7	7.8	4.4
	33.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.8	4.7	7.8	4.4
	35.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.6	4.6	7.7	4.3
	37.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.5	4.8	7.5	4.5	7.6	4.3
	39.0	5.0	3.8	5.8	4.2	6.7	4.6	7.1	4.7	7.2	4.6	7.4	4.4	7.6	4.3
8.0	10.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.4	5.6
	12.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.2	5.5
	14.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.2	5.5
	16.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	10.0	5.4
	18.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.8	5.3
	20.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.6	5.2
	21.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.4	5.1
	23.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.4	5.1
	25.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.4	5.5	9.3	5.0
	27.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.4	9.1	5.3	9.2	5.1
	29.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	9.0	5.3	9.1	5.0
	31.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.9	5.2	8.8	4.8
	33.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.8	5.2	8.8	4.8
	35.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.4	5.5	8.6	5.1	8.6	4.8
	37.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.3	5.4	8.4	5.0	8.6	4.9
	39.0	5.5	4.4	6.6	4.9	7.5	5.3	8.0	5.5	8.1	5.3	8.3	5.0	8.6	4.9

8.2 Heating

TC: total capacity

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
2.20	-15.00	-14.70	1.64	1.64	1.64	1.64	1.64	1.64
	-13.00	-12.60	1.74	1.74	1.74	1.74	1.74	1.74
	-11.00	-10.50	1.82	1.82	1.82	1.82	1.82	1.82
	-10.00	-9.50	1.90	1.90	1.90	1.90	1.90	1.90
	-9.10	-8.50	1.95	1.95	1.95	1.95	1.95	1.95
	-7.60	-7.00	1.98	1.98	1.98	1.98	1.98	1.98
	-5.60	-5.00	2.05	2.05	2.05	2.05	2.05	2.05
	-3.70	-3.00	2.16	2.16	2.16	2.16	2.16	2.16
	-0.70	0.00	2.31	2.31	2.31	2.31	2.31	2.18
	2.20	3.00	2.44	2.44	2.44	2.44	2.39	2.18
	4.10	5.00	2.52	2.52	2.52	2.52	2.39	2.18
	6.00	7.00	2.60	2.60	2.60	2.52	2.39	2.18
	7.90	9.00	2.68	2.68	2.93	2.52	2.39	2.18
	9.80	11.00	2.76	2.76	2.60	2.52	2.39	2.18
	11.80	13.00	2.86	2.81	2.60	2.52	2.39	2.18
	13.70	15.00	2.94	2.81	2.60	2.52	2.39	2.18
2.80	-15.00	-14.70	2.02	2.02	2.02	2.02	2.02	2.02
	-13.00	-12.60	2.14	2.14	2.14	2.14	2.14	2.14
	-11.00	-10.50	2.24	2.24	2.24	2.24	2.24	2.24
	-10.00	-9.50	2.34	2.34	2.34	2.34	2.34	2.34
	-9.10	-8.50	2.40	2.40	2.40	2.40	2.40	2.40
	-7.60	-7.00	2.43	2.43	2.43	2.43	2.43	2.43
	-5.60	-5.00	2.53	2.53	2.53	2.53	2.53	2.53
	-3.70	-3.00	2.66	2.66	2.66	2.66	2.66	2.66
	-0.70	0.00	2.85	2.85	2.85	2.85	2.85	2.69
	2.20	3.00	3.01	3.01	3.01	3.01	2.94	2.69
	4.10	5.00	3.10	3.10	3.10	3.10	2.94	2.69
	6.00	7.00	3.20	3.20	3.20	3.10	2.94	2.69
	7.90	9.00	3.30	3.30	2.93	3.10	2.94	2.69
	9.80	11.00	3.39	3.39	3.20	3.10	2.94	2.69
	11.80	13.00	3.52	3.46	3.20	3.10	2.94	2.69
	13.70	15.00	3.62	3.46	3.20	3.10	2.94	2.69
3.60	-15.00	-14.70	2.52	2.52	2.52	2.52	2.52	2.52
	-13.00	-12.60	2.68	2.68	2.68	2.68	2.68	2.68
	-11.00	-10.50	2.80	2.80	2.80	2.80	2.80	2.80
	-10.00	-9.50	2.92	2.92	2.92	2.92	2.92	2.92
	-9.10	-8.50	3.00	3.00	3.00	3.00	3.00	3.00
	-7.60	-7.00	3.04	3.04	3.04	3.04	3.04	3.04
	-5.60	-5.00	3.16	3.16	3.16	3.16	3.16	3.16
	-3.70	-3.00	3.32	3.32	3.32	3.32	3.32	3.32
	-0.70	0.00	3.56	3.56	3.56	3.56	3.56	3.36
	2.20	3.00	3.76	3.76	3.76	3.76	3.68	3.36
	4.10	5.00	3.88	3.88	3.88	3.88	3.68	3.36
	6.00	7.00	4.00	4.00	4.00	3.88	3.68	3.36

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
	7.90	9.00	4.12	4.12	2.93	3.88	3.68	3.36
	9.80	11.00	4.24	4.24	4.00	3.88	3.68	3.36
	11.80	13.00	4.40	4.32	4.00	3.88	3.68	3.36
	13.70	15.00	4.52	4.32	4.00	3.88	3.68	3.36
4.50	-15.00	-14.70	3.15	3.15	3.15	3.15	3.15	3.15
	-13.00	-12.60	3.35	3.35	3.35	3.35	3.35	3.35
	-11.00	-10.50	3.50	3.50	3.50	3.50	3.50	3.50
	-10.00	-9.50	3.65	3.65	3.65	3.65	3.65	3.65
	-9.10	-8.50	3.75	3.75	3.75	3.75	3.75	3.75
	-7.60	-7.00	3.80	3.80	3.80	3.80	3.80	3.80
	-5.60	-5.00	3.95	3.95	3.95	3.95	3.95	3.95
	-3.70	-3.00	4.15	4.15	4.15	4.15	4.15	4.15
	-0.70	0.00	4.45	4.45	4.45	4.45	4.45	4.20
	2.20	3.00	4.70	4.70	4.70	4.70	4.60	4.20
	4.10	5.00	4.85	4.85	4.85	4.85	4.60	4.20
	6.00	7.00	5.00	5.00	5.00	4.85	4.60	4.20
	7.90	9.00	5.15	5.15	2.93	4.85	4.60	4.20
	9.80	11.00	5.30	5.30	5.00	4.85	4.60	4.20
	11.80	13.00	5.50	5.40	5.00	4.85	4.60	4.20
	13.70	15.00	5.65	5.40	5.00	4.85	4.60	4.20
5.60	-15.00	-14.70	3.97	3.97	3.97	3.97	3.97	3.97
	-13.00	-12.60	4.22	4.22	4.22	4.22	4.22	4.22
	-11.00	-10.50	4.41	4.41	4.41	4.41	4.41	4.41
	-10.00	-9.50	4.60	4.60	4.60	4.60	4.60	4.60
	-9.10	-8.50	4.73	4.73	4.73	4.73	4.73	4.73
	-7.60	-7.00	4.79	4.79	4.79	4.79	4.79	4.79
	-5.60	-5.00	4.98	4.98	4.98	4.98	4.98	4.98
	-3.70	-3.00	5.23	5.23	5.23	5.23	5.23	5.23
	-0.70	0.00	5.61	5.61	5.61	5.61	5.61	5.29
	2.20	3.00	5.92	5.92	5.92	5.92	5.80	5.29
	4.10	5.00	6.11	6.11	6.11	6.11	5.80	5.29
	6.00	7.00	6.30	6.30	6.30	6.11	5.80	5.29
	7.90	9.00	6.49	6.49	2.93	6.11	5.80	5.29
	9.80	11.00	6.68	6.68	6.30	6.11	5.80	5.29
	11.80	13.00	6.93	6.80	6.30	6.11	5.80	5.29
	13.70	15.00	7.12	6.80	6.30	6.11	5.80	5.29
7.10	-15.00	-14.70	5.04	5.04	5.04	5.04	5.04	5.04
	-13.00	-12.60	5.36	5.36	5.36	5.36	5.36	5.36
	-11.00	-10.50	5.60	5.60	5.60	5.60	5.60	5.60
	-10.00	-9.50	5.84	5.84	5.84	5.84	5.84	5.84
	-9.10	-8.50	6.00	6.00	6.00	6.00	6.00	6.00
	-7.60	-7.00	6.08	6.08	6.08	6.08	6.08	6.08
	-5.60	-5.00	6.32	6.32	6.32	6.32	6.32	6.32
	-3.70	-3.00	6.64	6.64	6.64	6.64	6.64	6.64
	-0.70	0.00	7.12	7.12	7.12	7.12	7.12	6.72
	2.20	3.00	7.52	7.52	7.52	7.52	7.36	6.72

Indoor Unit size (KW)	Outdoor temperature (℃DB)		Indoor temperature (℃WB)					
			16.00	18.00	20.00	21.00	22.00	24.00
			TH	TH	TH	TH	TH	TH
	WB	DB	kW	kW	kW	kW	kW	kW
	4.10	5.00	7.76	7.76	7.76	7.76	7.36	6.72
	6.00	7.00	8.00	8.00	8.00	7.76	7.36	6.72
	7.90	9.00	8.24	8.24	2.93	7.76	7.36	6.72
	9.80	11.00	8.48	8.48	8.00	7.76	7.36	6.72
	11.80	13.00	8.80	8.64	8.00	7.76	7.36	6.72
	13.70	15.00	9.04	8.64	8.00	7.76	7.36	6.72
8.00	-15.00	-14.70	5.67	5.67	5.67	5.67	5.67	5.67
	-13.00	-12.60	6.03	6.03	6.03	6.03	6.03	6.03
	-11.00	-10.50	6.30	6.30	6.30	6.30	6.30	6.30
	-10.00	-9.50	6.57	6.57	6.57	6.57	6.57	6.57
	-9.10	-8.50	6.75	6.75	6.75	6.75	6.75	6.75
	-7.60	-7.00	6.84	6.84	6.84	6.84	6.84	6.84
	-5.60	-5.00	7.11	7.11	7.11	7.11	7.11	7.11
	-3.70	-3.00	7.47	7.47	7.47	7.47	7.47	7.47
	-0.70	0.00	8.01	8.01	8.01	8.01	8.01	7.56
	2.20	3.00	8.46	8.46	8.46	8.46	8.28	7.56
	4.10	5.00	8.73	8.73	8.73	8.73	8.28	7.56
	6.00	7.00	9.00	9.00	9.00	8.73	8.28	7.56
	7.90	9.00	9.27	9.27	2.93	8.73	8.28	7.56
	9.80	11.00	9.54	9.54	9.00	8.73	8.28	7.56
	11.80	13.00	9.90	9.72	9.00	8.73	8.28	7.56
	13.70	15.00	10.17	9.72	9.00	8.73	8.28	7.56

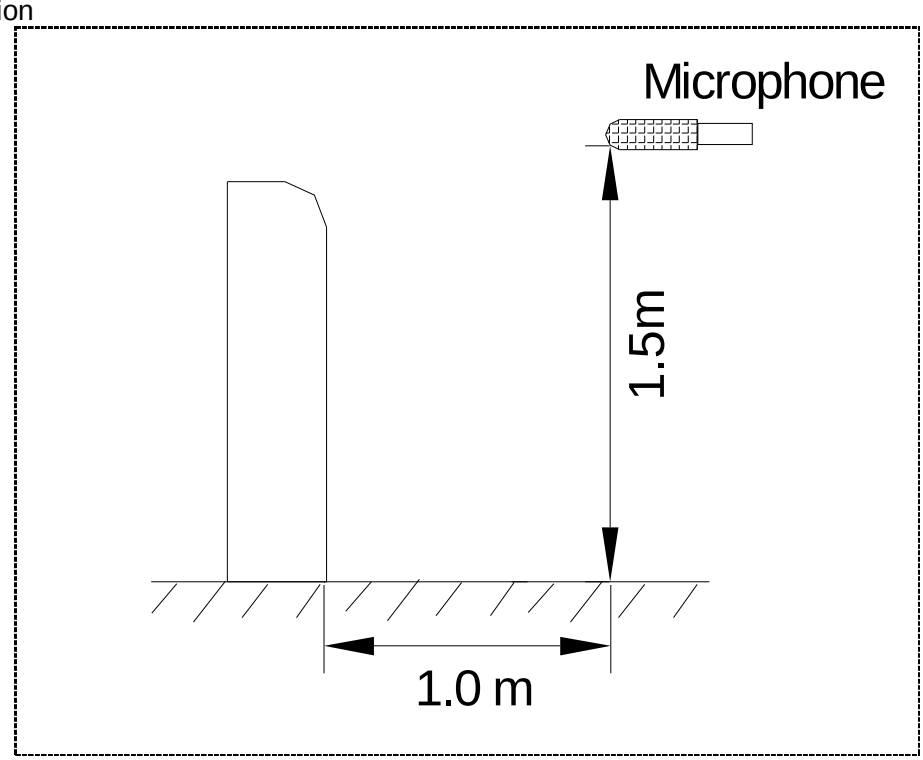
9. Electric Characteristics

Model	Indoor Unit				Power Supply		IFM	
	Hz	Voltage	Min.	Max.	MCA	MFA	KW	FLA
MDV-D22Z/N1-F1	50	220-240V	198	254	0.25	15	0.02	0.2
MDV-D22Z/N1-F2	50	220-240V	198	254	0.25	15	0.02	0.2
MDV-D22Z/N1-F3	50	220-240V	198	254	0.25	15	0.02	0.2
MDV-D28Z/N1-F1	50	220-240V	198	254	0.25	15	0.02	0.2
MDV-D28Z/N1-F2	50	220-240V	198	254	0.25	15	0.02	0.2
MDV-D28Z/N1-F3	50	220-240V	198	254	0.25	15	0.02	0.2
MDV-D36Z/N1-F1	50	220-240V	198	254	0.3	15	0.02	0.24
MDV-D36Z/N1-F2	50	220-240V	198	254	0.3	15	0.02	0.24
MDV-D36Z/N1-F3	50	220-240V	198	254	0.3	15	0.02	0.24
MDV-D45Z/N1-F1	50	220-240V	198	254	0.4	15	0.02	0.3
MDV-D45Z/N1-F2	50	220-240V	198	254	0.4	15	0.02	0.3
MDV-D45Z/N1-F3	50	220-240V	198	254	0.4	15	0.02	0.3
MDV-D56Z/N1-F1	50	220-240V	198	254	0.6	15	0.028	0.48
MDV-D56Z/N1-F2	50	220-240V	198	254	0.6	15	0.028	0.48
MDV-D56Z/N1-F3	50	220-240V	198	254	0.6	15	0.028	0.48
MDV-D71Z/N1-F1	50	220-240V	198	254	0.8	15	0.07	0.62
MDV-D71Z/N1-F2	50	220-240V	198	254	0.8	15	0.07	0.62
MDV-D71Z/N1-F3	50	220-240V	198	254	0.8	15	0.07	0.62
MDV-D80Z/N1-F1	50	220-240V	198	254	0.8	15	0.07	0.62
MDV-D80Z/N1-F2	50	220-240V	198	254	0.8	15	0.07	0.62
MDV-D80Z/N1-F3	50	220-240V	198	254	0.8	15	0.07	0.62

Remark:
MCA: Min. Current Amps. (A)
MFA: Max. Fuse Amps. (A)
KW: Fan Motor Rated Output (kW)
FLA: Full Load Amps. (A)
IFM: Indoor Fan Motor

10. Sound Levels

10.1 Test condition

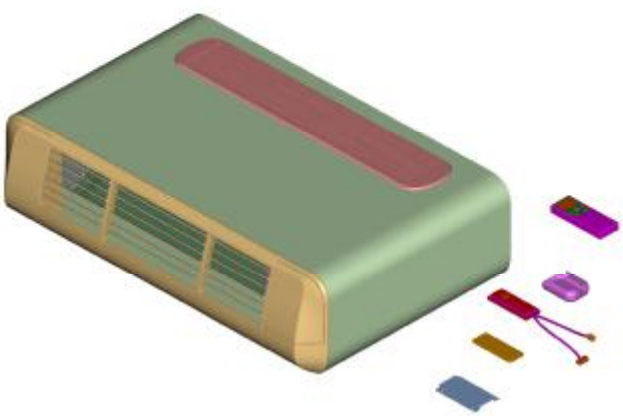


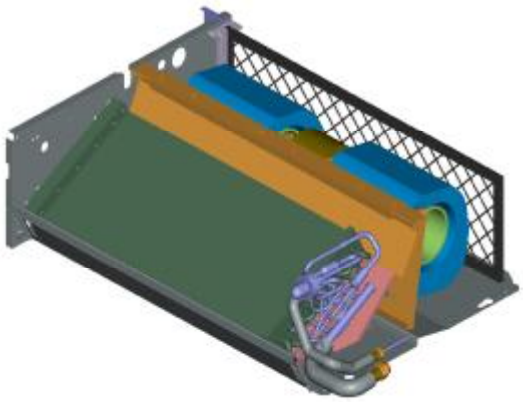
10.2 Test value

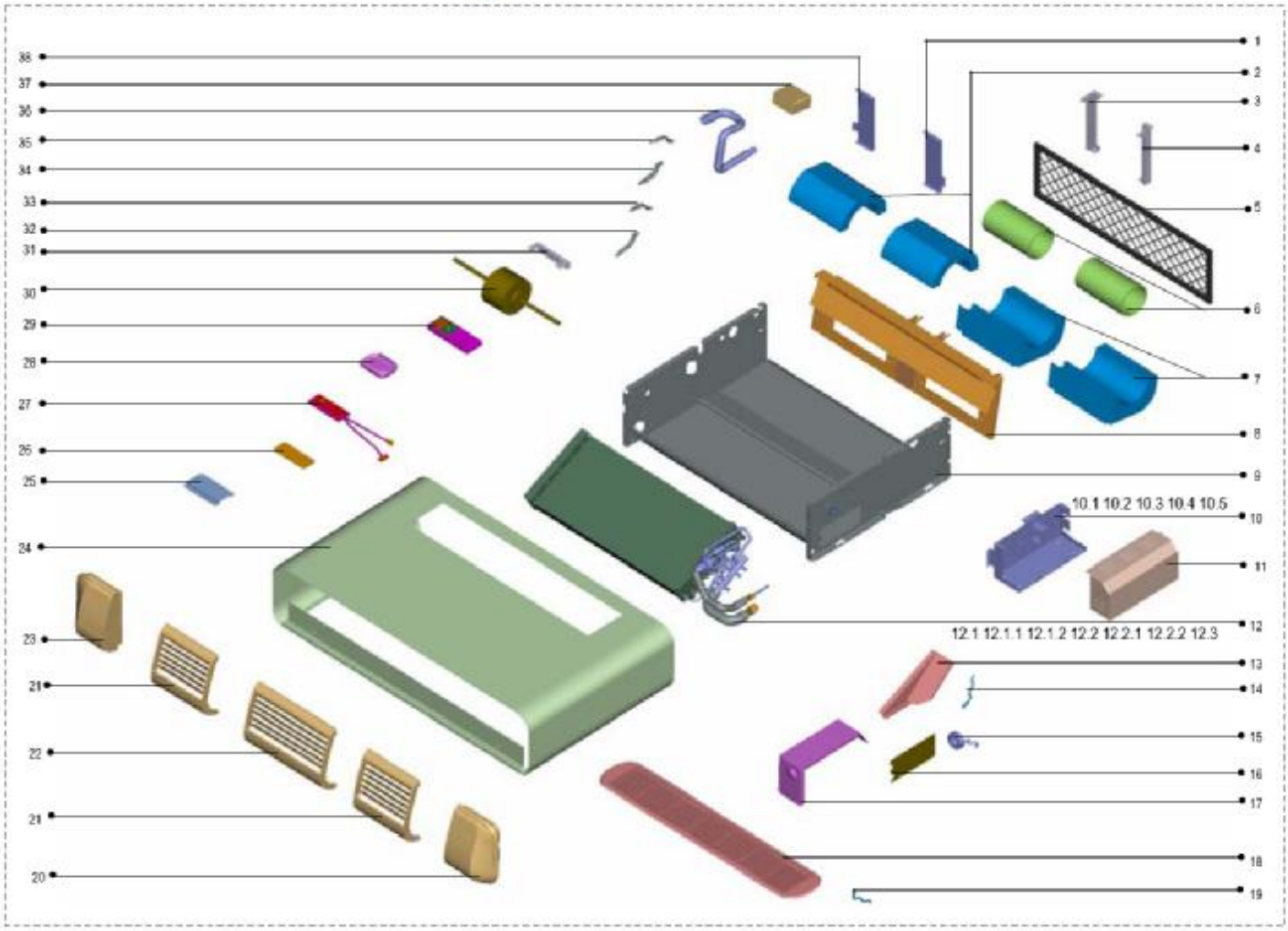
Model	Noise level under three speeds of fan (dB(A))		
	H	M	L
MDV-D22Z/N1-F1/F2/F3	37	35	33
MDV-D28Z/N1-F1/F2/F3	37	35	33
MDV-D36Z/N1-F1/F2/F3	39	37	35
MDV-D45Z/N1-F1/F2/F3	39	37	35
MDV-D56Z/N1-F1/F2/F3	41	39	37
MDV-D71Z/N1-F1/F2/F3	43	41	38
MDV-D80Z/N1-F1/F2/F3	43	41	38

11. Exploded View

11.1 MDV-D22Z/N1-F1 MDV-D28Z/N1-F1

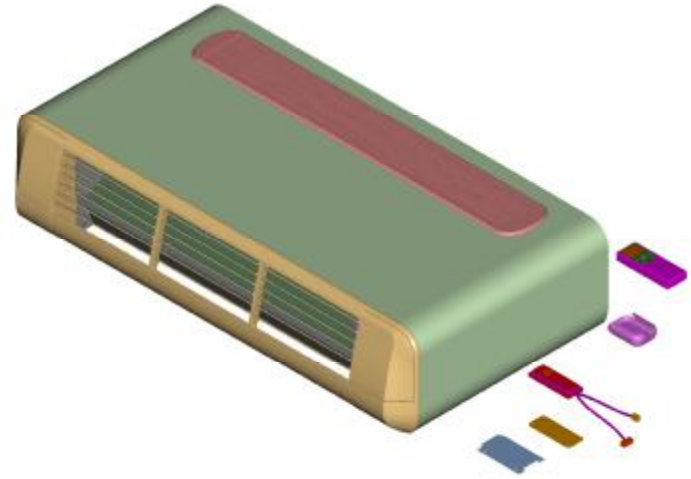


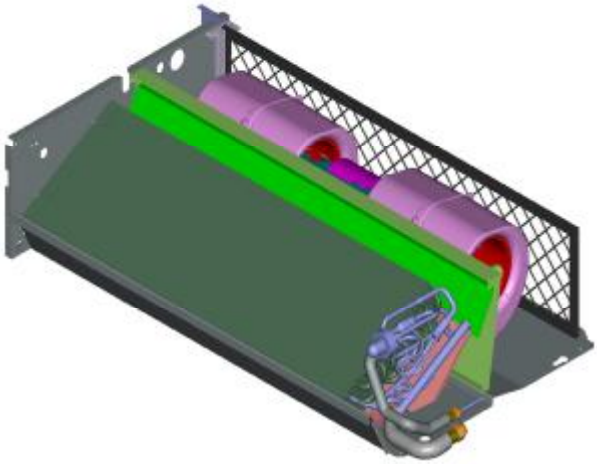


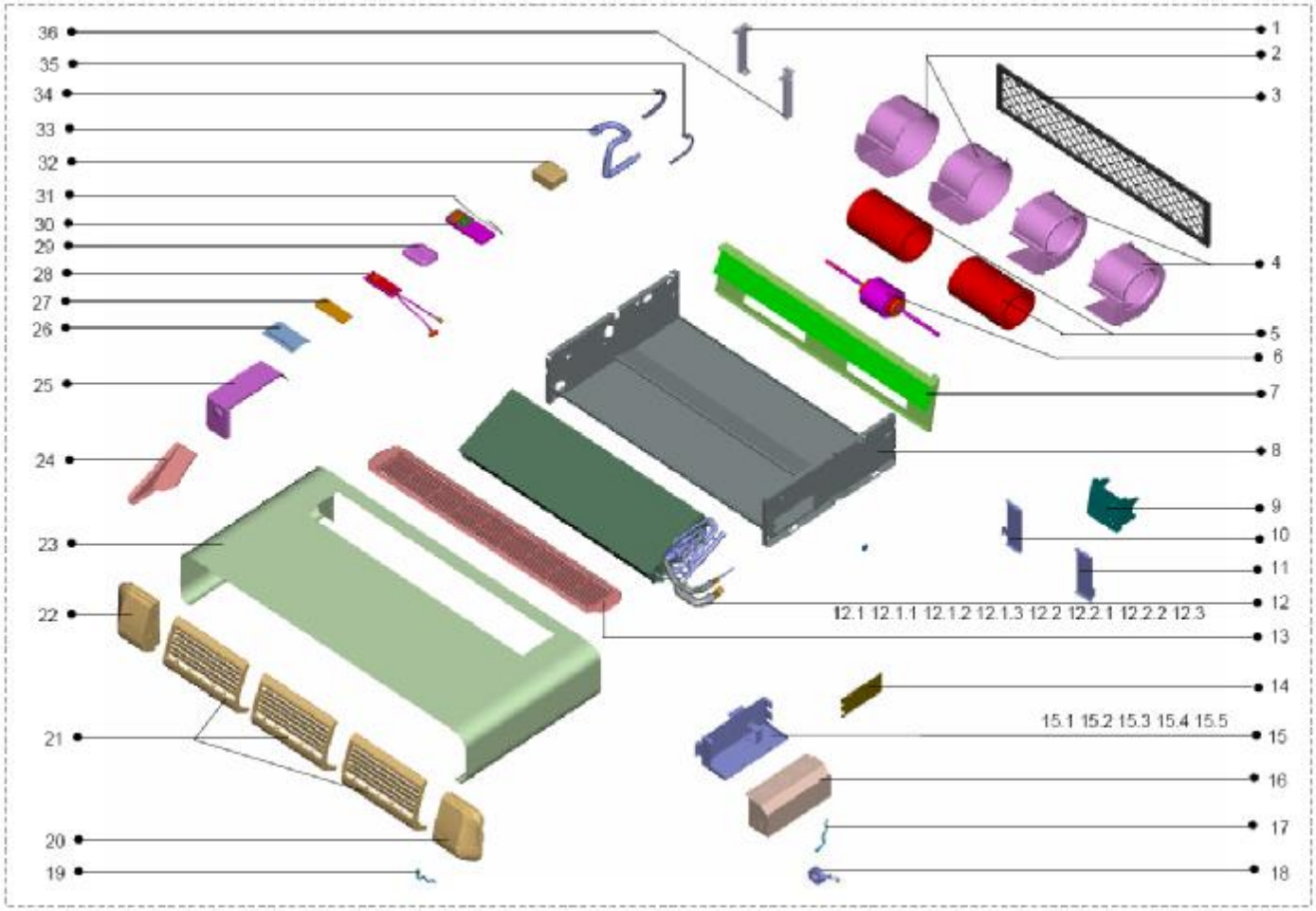


No.	Part name	Quantity	No.	Part name	Quantity
1	Left sealed board ass'y	1	14	Temp. sensor	1
2	Volute shell	2	15	EEV solenoid	1
3	Filter bracket	1	16	Right seal board ass'y	1
4	Filter bracket	1	17	Evaporator connection board ass'y	1
5	Filter	1	18	Louver ass'y	1
6	Fan	2	19	Temp.sensor ass'y	1
7	Volute shell	2	20	Left cover seat ass'y	1
8	Middle beam	1	21	Louver ass'y	2
9	Base	1	22	Louver ass'y	1
10	E-part box ass'y	1	23	Right cover seat ass'y	1
10.1	Main controller ass'y	1	24	Cabinet ass'y	1
10.2	E-part box base	1	25	Installing board	1
10.3	Transformer	1	26	Control box cover	1
10.4	Wire joint, 2p	1	27	Display board ass'y	1
10.5	Wire joint	1	28	Remote controller holder ass'y	1
11	E-Part box cover	1	29	Remote controller	1
12	Evaporator ass'y	1	30	Motor	1
12.1	Input pipe ass'y	1	31	Strengthen board	1
12.1.1	Electronic expansion valve	1	32	Fixing board	1
12.1.2	Copper nut	1	33	Fixing board	1
12.1.3	Pipe joint	1	34	Fixing board	1
12.2	Output pipe ass'y	1	35	Fixing board	1
12.2.1	Copper nut	1	36	Drain hose	1
12.2.2	Pipe joint	1	37	Capacitor box	1
12.3	Temp.sensor ass'y	1	38	Right sealed board ass'y	1
13	Supporting board ass'y	1	39	Motor capacitor	1

11.2 MDV-D36Z/N1-F1 MDV-D45Z/N1-F1

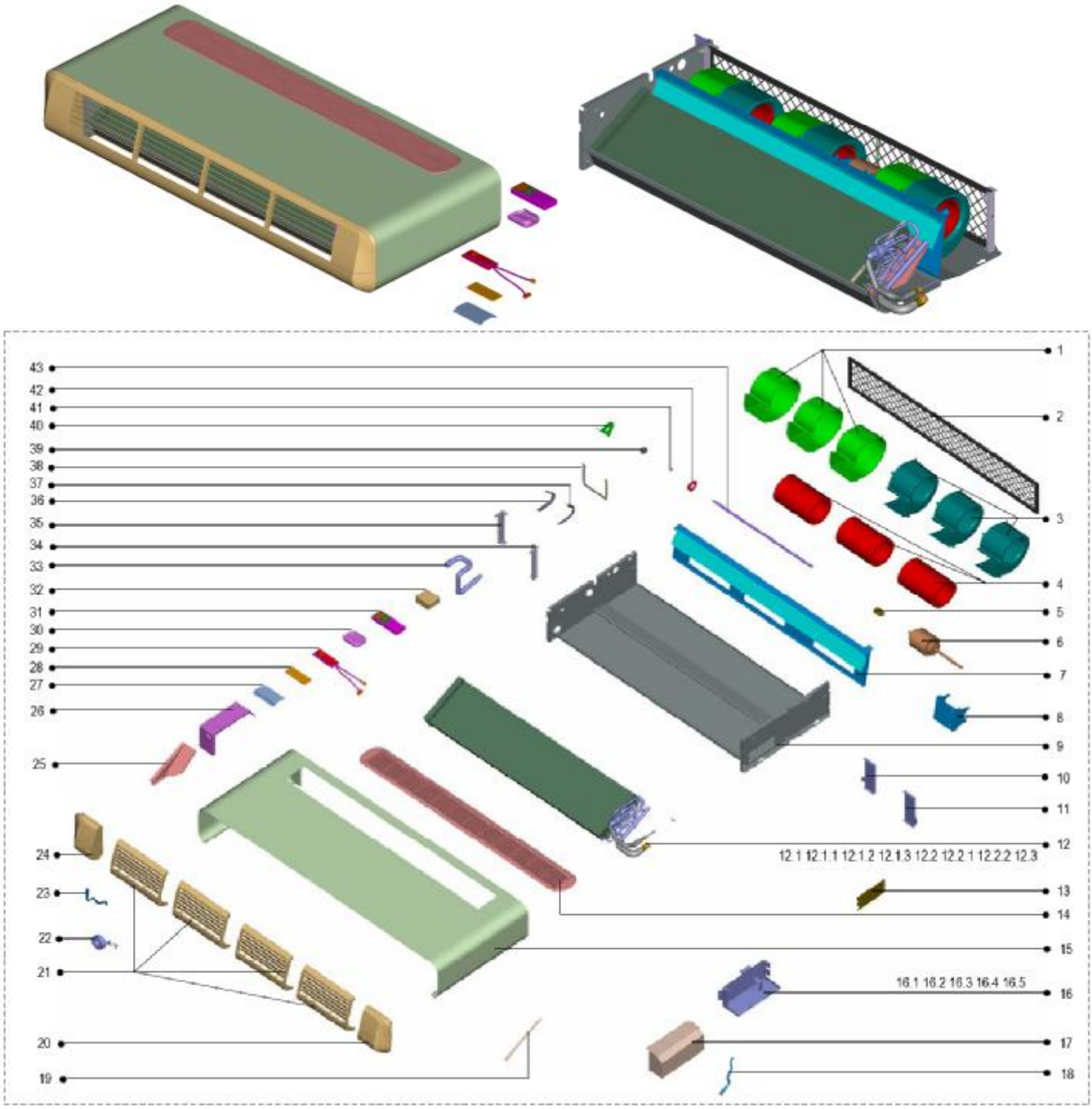






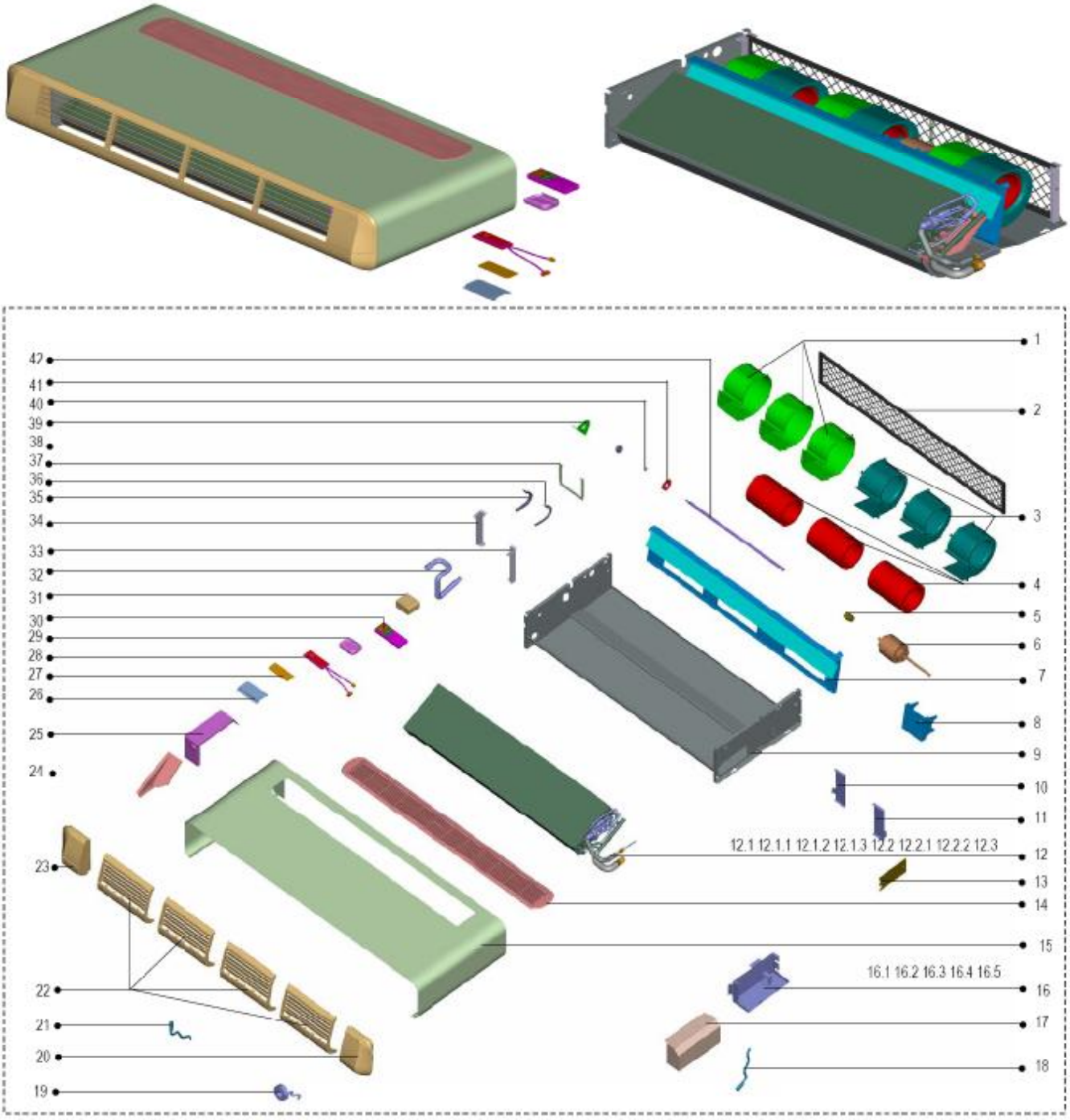
No.	Part name	Quantity
1	Filter bracket	1
2	Volute shell	2
3	Filter	1
4	Left volute shell	2
5	Fan	2
6	Motor	1
7	Middle beam	1
8	Base	1
9	Motor bracket	1
10	Right sealed board ass'y	1
11	Left sealed board ass'y	1
12	Evaporator ass'y	1
12.1	Input pipe ass'y	1
12.1.1	Electronic expansion valve	1
12.1.2	Copper nut	1
12.1.3	Pipe joint	1
12.2	Output pipe ass'y	1
12.2.1	Copper nut	1
12.2.2	Pipe joint	1
12.3	Temp.sensor ass'y	1
13	Louver ass'y	1
14	Right seal board ass'y	1
15	E-part box ass'y	1
15.1	Main controller ass'y	1
15.2	E-part box base	1
15.3	Transformer	1
15.4	Wire joint, 2p	1
15.5	Wire joint	1
16	E-Part box cover	1
17	Temp. sensor	1
18	EEV solenoid	1
19	Temp.sensor ass'y	1
20	Left cover seat ass'y	1
21	Louver ass'y	3
22	Right cover seat ass'y	1
23	Cabinet ass'y	1
24	Supporting board ass'y	1
25	Evaporator connection board ass'y	1
26	Installing board	1
27	Control box cover	1
28	Display board ass'y	1
29	Remote controller holder ass'y	1
30	Remote controller	1
31	Board	1
32	Capacitor box	1
33	Drain hose	1
34	Motor clamp	1
35	Motor clamp	1
36	Filter bracket	1
37	Motor capacitor	1

11.3 MDV-D56Z/N1-F1 MDV-D71Z/N1-F1



No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	3	17	E-Part box cover	1
2	Filter	1	18	Temp. sensor	1
3	Left volute shell	3	19	Baffle	1
4	Fan	3	20	Left cover seat ass'y	1
5	Coupling	1	21	Louver ass'y	4
6	Motor	1	22	EEV solenoid	1
7	Middle beam	1	23	Temp.sensor ass'y	1
8	Motor bracket	1	24	Right cover seat ass'y	1
9	Base	1	25	Supporting board ass'y	1
10	Right sealed board ass'y	1	26	Evaporator connection board ass'y	1
11	Left sealed board ass'y	1	27	Installing board	1
12	Evaporator ass'y	1	28	Control box cover	1
12.1	Input pipe ass'y	1	29	Display board ass'y	1
12.1.1	Electronic expansion valve	1	30	Remote controller holder ass'y	1
12.1.2	Copper nut	1	31	Remote controller	1
12.1.3	Pipe joint	1	32	Capacitor box	1
12.2	Output pipe ass'y	1	33	Drain hose	1
12.2.1	Copper nut	1	34	Filter bracket	1
12.2.2	Pipe joint	1	35	Filter bracket	1
12.3	Temp.sensor ass'y	1	36	Motor clamp	1
13	Right seal board ass'y	1	37	Motor clamp	1
14	Louver ass'y	1	38	Board	1
15	Cabinet ass'y	1	39	Bearing base	1
16	E-part box ass'y	1	40	Bearing supporting board	1
16.1	Main controller ass'y	1	41	Bearing	1
16.2	E-part box base	1	42	Bearing Fixing board	1
16.3	Transformer	1	43	Connecting shaft	1
16.4	Wire joint, 2p	1	44	Motor capacitor	1
16.5	Wire joint	1			

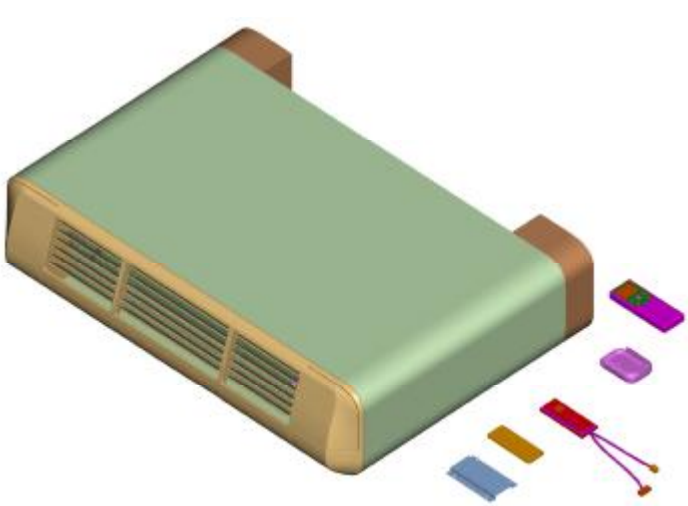
11.4 MDV-D80Z/N1-F1

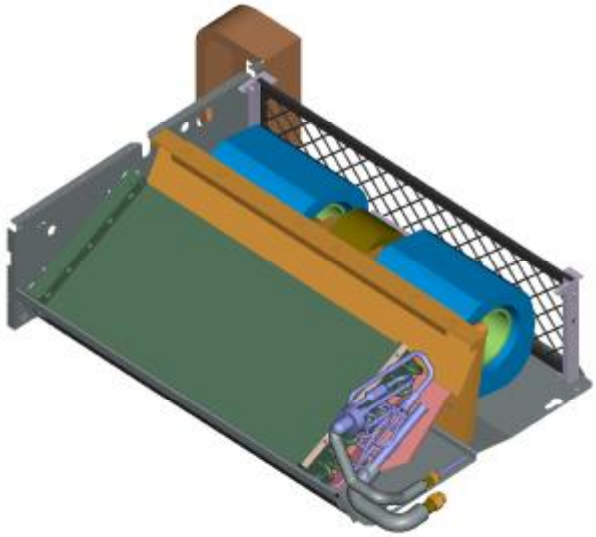


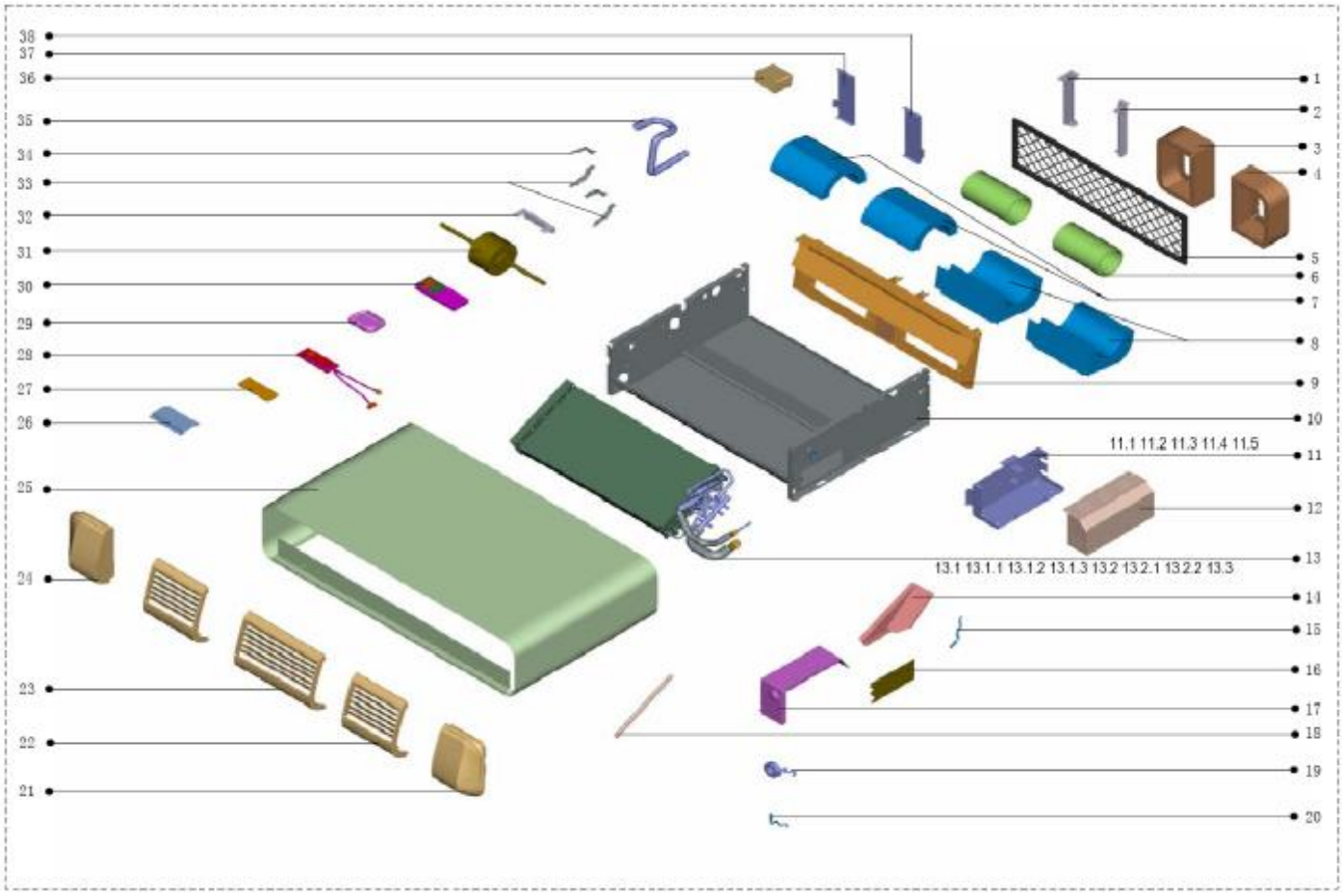
No.	Part name	Quantity
1	Volute shell	3
2	Filter	1
3	Left volute shell	3
4	Fan	3
5	Coupling	1
6	Motor	1
7	Middle beam	1
8	Motor bracket	1
9	Base	1
10	Right sealed board ass'y	1
11	Left sealed board ass'y	1
12	Evaporator ass'y	1
12.1	Input pipe ass'y	1
12.1.1	Electronic expansion valve	1
12.1.2	Copper nut	1
12.1.3	Pipe joint	1
12.2	Output pipe ass'y	1
12.2.1	Copper nut	1
12.2.2	Pipe joint	1
12.3	Temp.sensor ass'y	1
13	Right seal board ass'y	1
14	Louver ass'y	1
15	Cabinet ass'y	1
16	E-part box ass'y	1
16.1	Main controller ass'y	1
16.2	E-part box base	1
16.3	Transformer	1
16.4	Wire joint, 2p	1

No.	Part name	Quantity
16.5	Wire joint	1
17	E-Part box cover	1
18	Temp. sensor	1
19	EEV solenoid	1
20	Left cover seat ass'y	1
21	Temp.sensor ass'y	1
22	Louver ass'y	4
23	Right cover seat ass'y	1
24	Supporting board ass'y	1
25	Evaporator connection board ass'y	1
26	Installing board	1
27	Control box cover	1
28	Display board ass'y	1
29	Remote controller holder ass'y	1
30	Remote controller	1
31	Capacitor box	1
32	Drain hose	1
33	Filter bracket	1
34	Filter bracket	1
35	Motor clamp	1
36	Motor clamp	1
37	Board	1
38	Bearing base	1
39	Bearing supporting board	1
40	Bearing	1
41	Bearing Fixing board	1
42	Connecting shaft	1
43	Motor capacitor	1

11.5 MDV-D22Z/N1-F2 MDV-D28Z/N1-F2

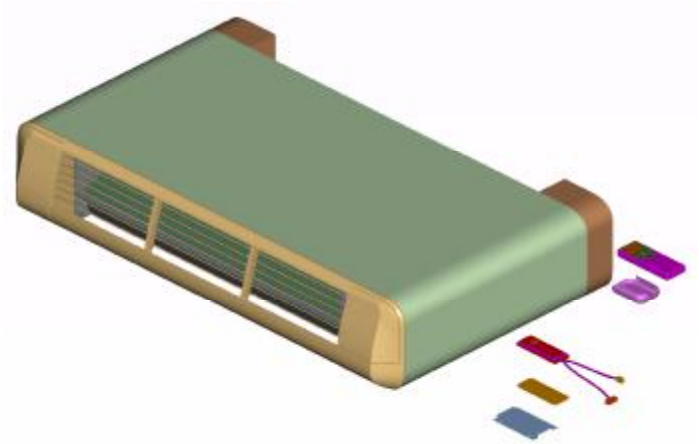


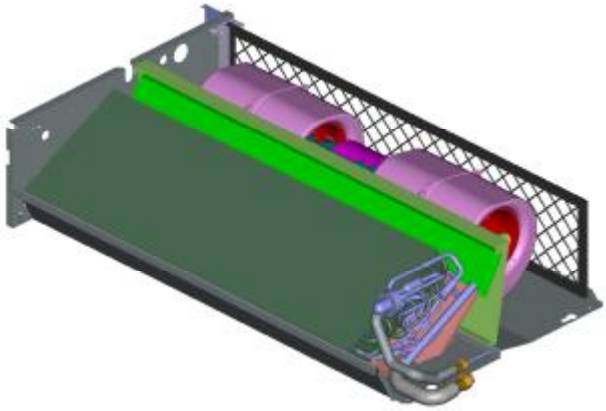


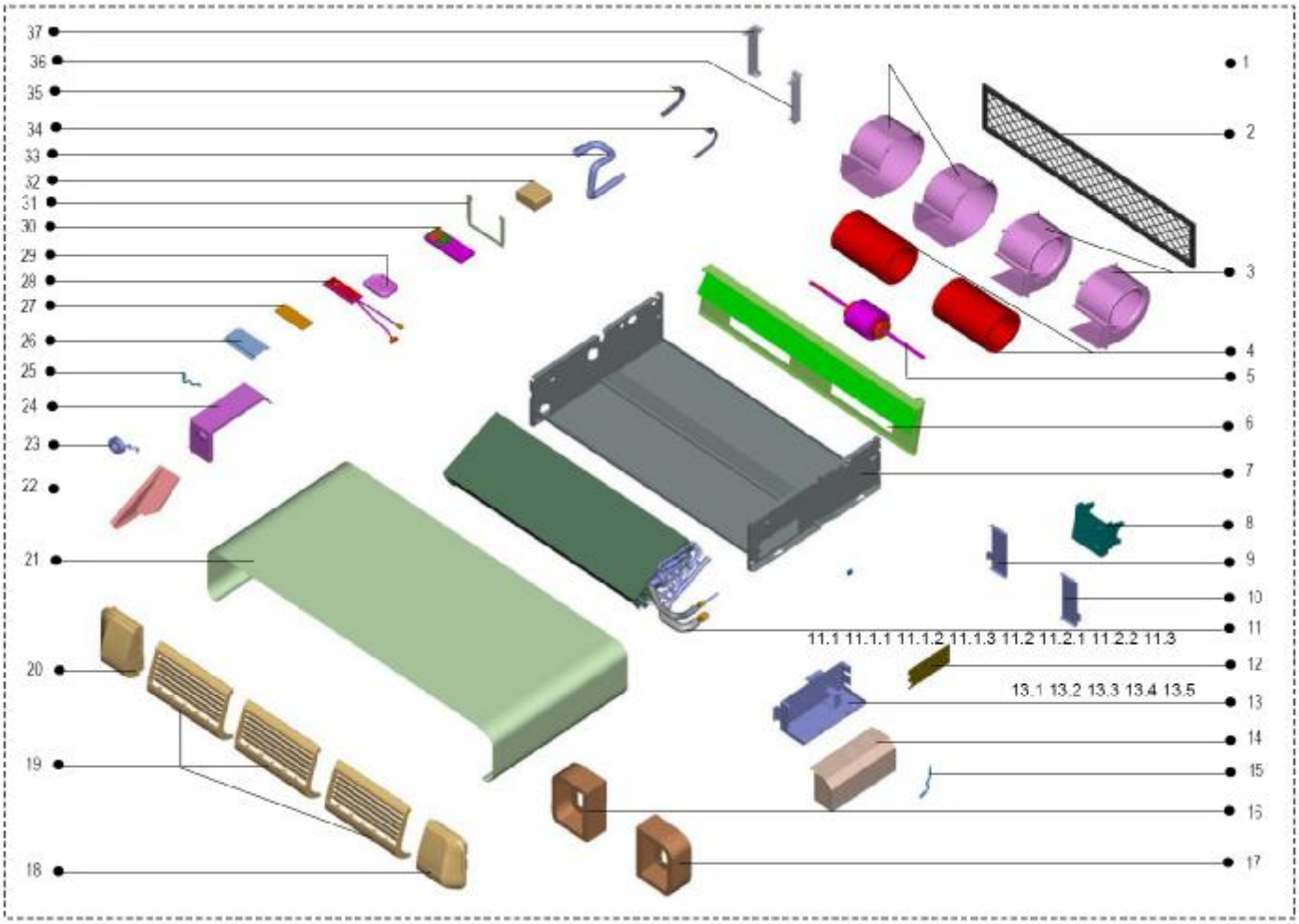


No.	Part name	Quantity	No.	Part name	Quantity
1	Filter bracket	1	14	Supporting board ass'y	1
2	Filter bracket	1	15	Temp. sensor	1
3	Right supporting shelf	1	16	Right seal board ass'y	1
4	Left supporting shelf	1	17	Evaporator connection board ass'y	1
5	Filter	1	18	Baffle	1
6	Fan	2	19	EEV solenoid	1
7	Volute shell	2	20	Temp.sensor ass'y	1
8	Volute shell	2	21	Left cover seat ass'y	1
9	Middle beam	1	22	Louver ass'y	2
10	Base	1	23	Louver ass'y	1
11	E-part box ass'y	1	24	Right cover seat ass'y	1
11.1	Main controller ass'y	1	25	Cabinet ass'y	1
11.2	E-part box base	1	26	Installing board	1
11.3	Transformer	1	27	Control box cover	1
11.4	Wire joint, 2p	1	28	Display board ass'y	1
11.5	Wire joint	1	29	Remote controller holder ass'y	1
12	E-Part box cover	1	30	Remote controller	1
13	Evaporator ass'y	1	31	Motor	1
13.1	Input pipe ass'y	1	32	Strengthen board	1
13.1.1	Electronic expansion valve	1	33	Fixing board	1
13.1.2	Copper nut	1	34	Fixing board	1
13.1.3	Pipe joint	1	35	Drain hose	1
13.2	Output pipe ass'y	1	36	Capacitor box	1
13.2.1	Copper nut	1	37	Right sealed board ass'y	1
13.2.2	Pipe joint	1	38	Left sealed board ass'y	1
13.3	Temp.sensor ass'y	1	39	Motor capacitor	1

11.6 MDV-D36Z/N1-F2 MDV-D45Z/N1-F2

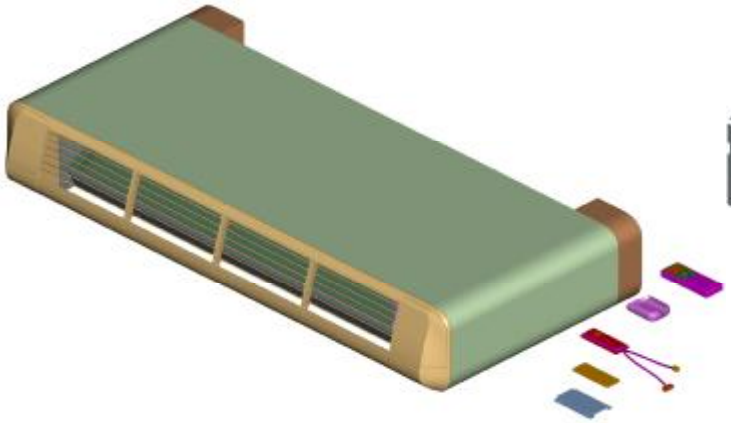


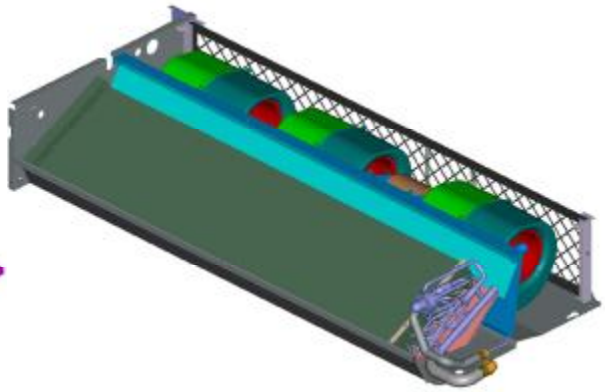


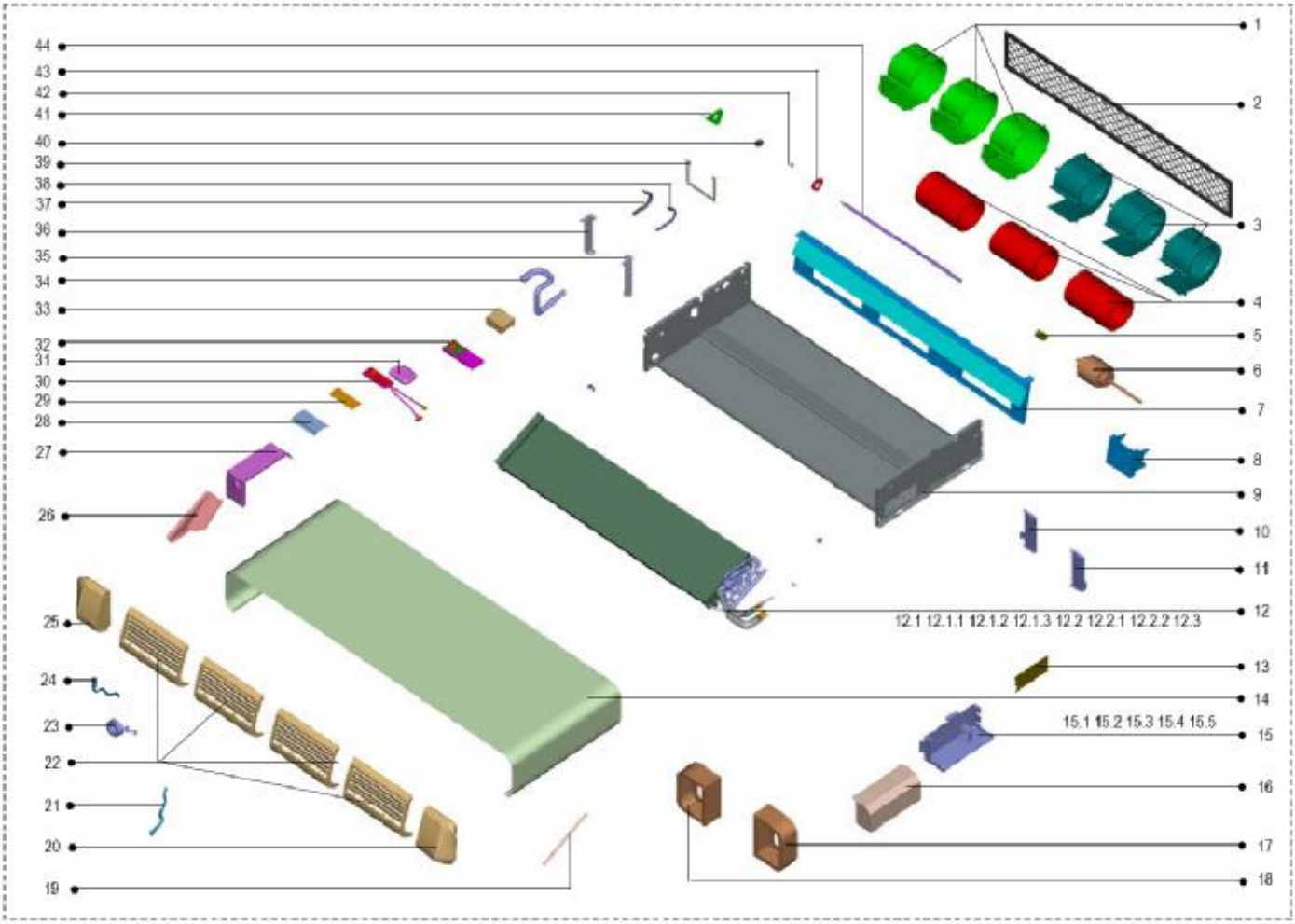


No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	2	14	E-Part box cover	1
2	Filter	1	15	Temp. sensor	1
3	Left volute shell	2	16	Right supporting shelf	1
4	Fan	2	17	Left supporting shelf	1
5	Motor	1	18	Left cover seat ass'y	1
6	Middle beam	1	19	Louver ass'y	3
7	Base	1	20	Right cover seat ass'y	1
8	Motor bracket	1	21	Cabinet ass'y	1
9	Right sealed board ass'y	1	22	Supporting board ass'y	1
10	Left sealed board ass'y	1	23	EEV solenoid	1
11	Evaporator ass'y	1	24	Evaporator connection board ass'y	1
11.1	Input pipe ass'y	1	25	Temp.sensor ass'y	1
11.1.1	Electronic expansion valve	1	26	Installing board	1
11.1.2	Copper nut	1	27	Control box cover	1
11.1.3	Pipe joint	1	28	Display board ass'y	1
11.2	Output pipe ass'y	1	29	Remote controller holder ass'y	1
11.2.1	Copper nut	1	30	Remote controller	1
11.2.2	Pipe joint	1	31	Board	1
11.3	Temp.sensor ass'y	1	32	Capacitor box	1
12	Right seal board ass'y	1	33	Drain hose	1
13	E-part box ass'y	1	34	Motor clamp	1
13.1	Main controller ass'y	1	35	Motor clamp	1
13.2	E-part box base	1	36	Filter bracket	1
13.3	Transformer	1	37	Filter bracket	1
13.4	Wire joint, 2p	1	38	Motor capacitor	1
13.5	Wire joint	1			

11.7 MDV-D56Z/N1-F2 MDV-D71Z/N1-F2



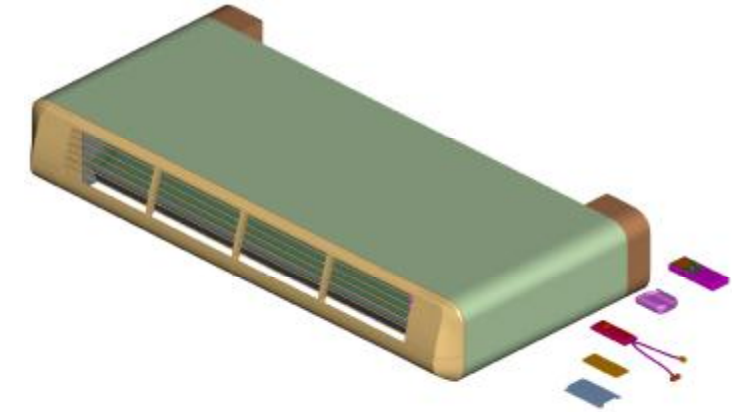


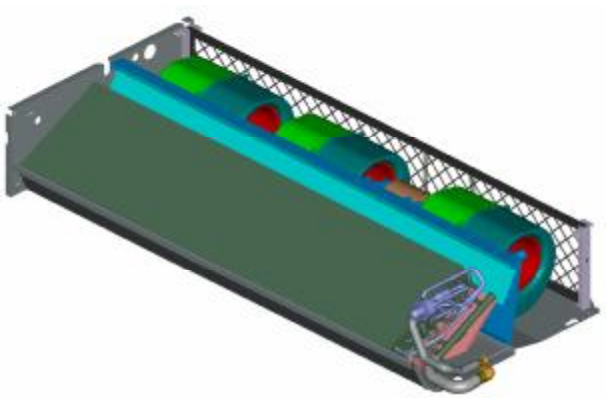


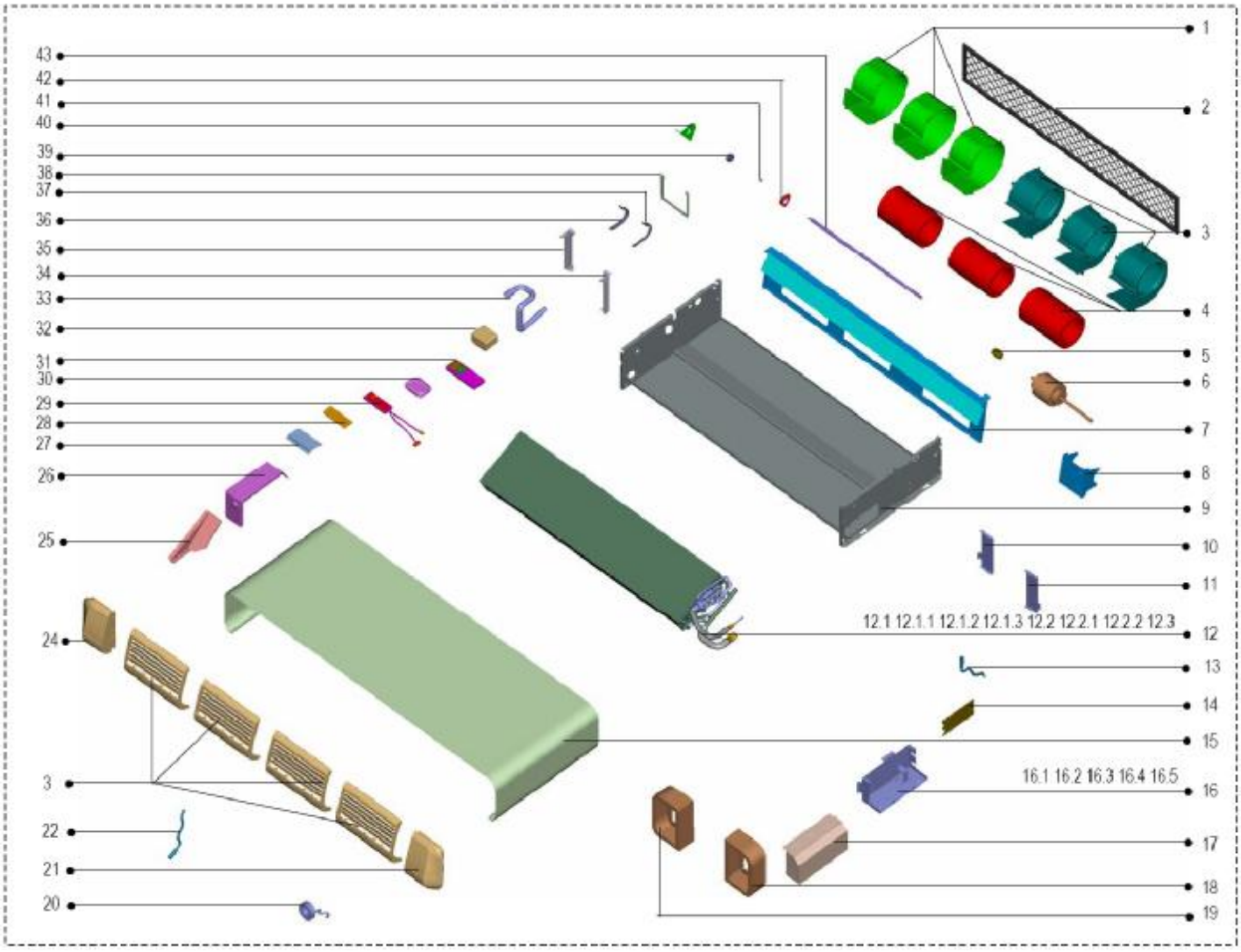
No.	Part name	Quantity
1	Volute shell	3
2	Filter	1
3	Left volute shell	3
4	Fan	3
5	Coupling	1
6	Motor	1
7	Middle beam	1
8	Motor bracket	1
9	Base	1
10	Right sealed board ass'y	1
11	Left sealed board ass'y	1
12	Evaporator ass'y	1
12.1	Input pipe ass'y	1
12.1.1	Electronic expansion valve	1
12.1.2	Copper nut	1
12.1.3	Pipe joint	1
12.2	Output pipe ass'y	1
12.2.1	Copper nut	1
12.2.2	Pipe joint	1
12.3	Temp.sensor ass'y	1
13	Right seal board ass'y	1
14	Cabinet ass'y	1
15	E-part box ass'y	1
15.1	Main controller ass'y	1
15.2	E-part box base	1
15.3	Transformer	1
15.4	Wire joint, 2p	1
15.5	Wire joint	1
16	E-Part box cover	1

No.	Part name	Quantity
17	Right supporting shelf	1
18	Left supporting shelf	1
19	Baffle	1
20	Left cover seat ass'y	1
21	Temp. sensor	1
22	Louver ass'y	4
23	EEV solenoid	1
24	Temp.sensor ass'y	1
25	Right cover seat ass'y	1
26	Supporting board ass'y	1
27	Evaporator connection board ass'y	1
28	Installing board	1
29	Control box cover	1
30	Display board ass'y	1
31	Remote controller holder ass'y	1
32	Remote controller	1
33	Capacitor box	1
34	Drain hose	1
35	Filter bracket	1
36	Filter bracket	1
37	Motor clamp	1
38	Motor clamp	1
39	Board	1
40	Bearing base	1
41	Bearing supporting board	1
42	Bearing	1
43	Bearing Fixing board	1
44	Connecting shaft	1
45	Motor capacitor	1

11.8 MDV-D80Z/N1-F2

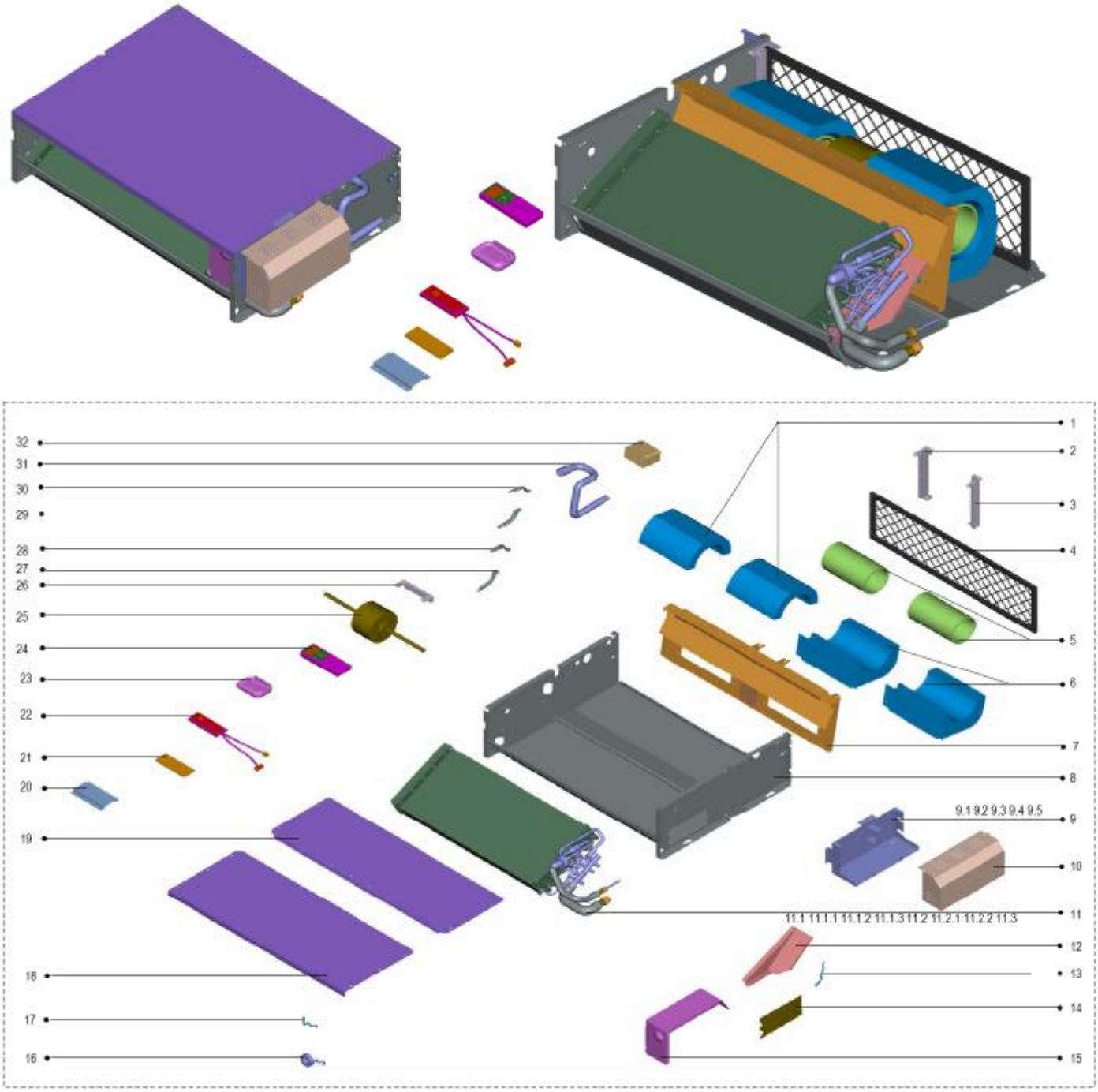






No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	3	17	E-Part box cover	1
2	Filter	1	18	Right supporting shelf	1
3	Left volute shell	3	19	Left supporting shelf	1
4	Fan	3	20	EEV solenoid	1
5	Coupling	1	21	Left cover seat ass'y	1
6	Motor	1	22	Temp. sensor	1
7	Middle beam	1	23	Louver ass'y	4
8	Motor bracket	1	24	Right cover seat ass'y	1
9	Base	1	25	Supporting board ass'y	1
10	Right sealed board ass'y	1	26	Evaporator connection board ass'y	1
11	Left sealed board ass'y	1	27	Installing board	1
12	Evaporator ass'y	1	28	Control box cover	1
12.1	Input pipe ass'y	1	29	Display board ass'y	1
12.1.1	Electronic expansion valve	1	30	Remote controller holder ass'y	1
12.1.2	Copper nut	1	31	Remote controller	1
12.1.3	Pipe joint	1	32	Capacitor box	1
12.2	Output pipe ass'y	1	33	Drain hose	1
12.2.1	Copper nut	1	34	Filter bracket	1
12.2.2	Pipe joint	1	35	Filter bracket	1
12.3	Temp.sensor ass'y	1	36	Motor clamp	1
13	Temp.sensor ass'y	1	37	Motor clamp	1
14	Right seal board ass'y	1	38	Board	1
15	Cabinet ass'y	1	39	Bearing base	1
16	E-part box ass'y	1	40	Bearing supporting board	1
16.1	Main controller ass'y	1	41	Bearing	1
16.2	E-part box base	1	42	Bearing Fixing board	1
16.3	Transformer	1	43	Connecting shaft	1
16.4	Wire joint, 2p	1	44	Motor capacitor	1
16.5	Wire joint	1			

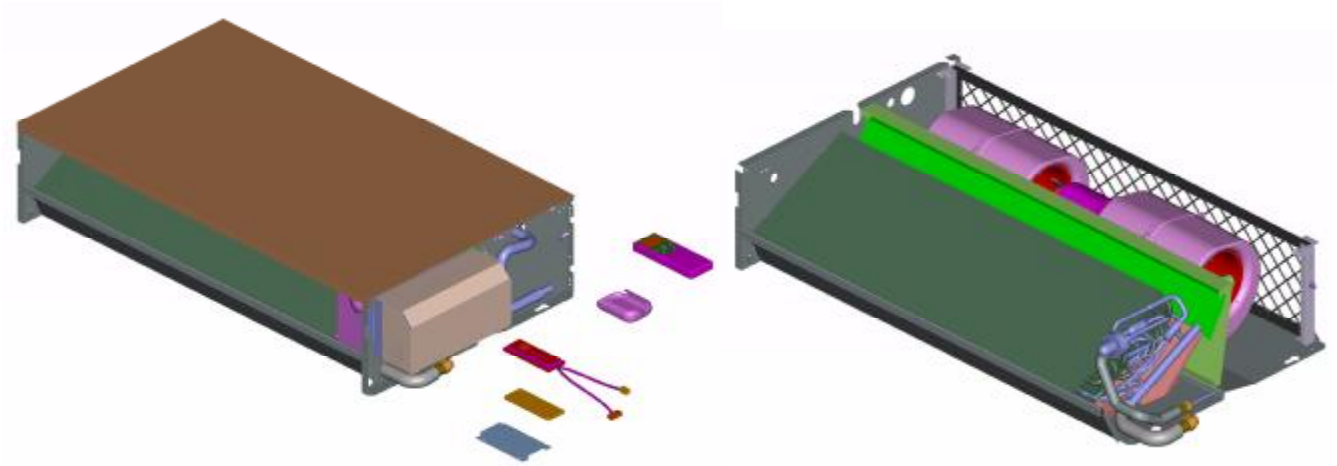
11.9 MDV-D22Z/N1-F3 MDV-D28Z/N1-F3

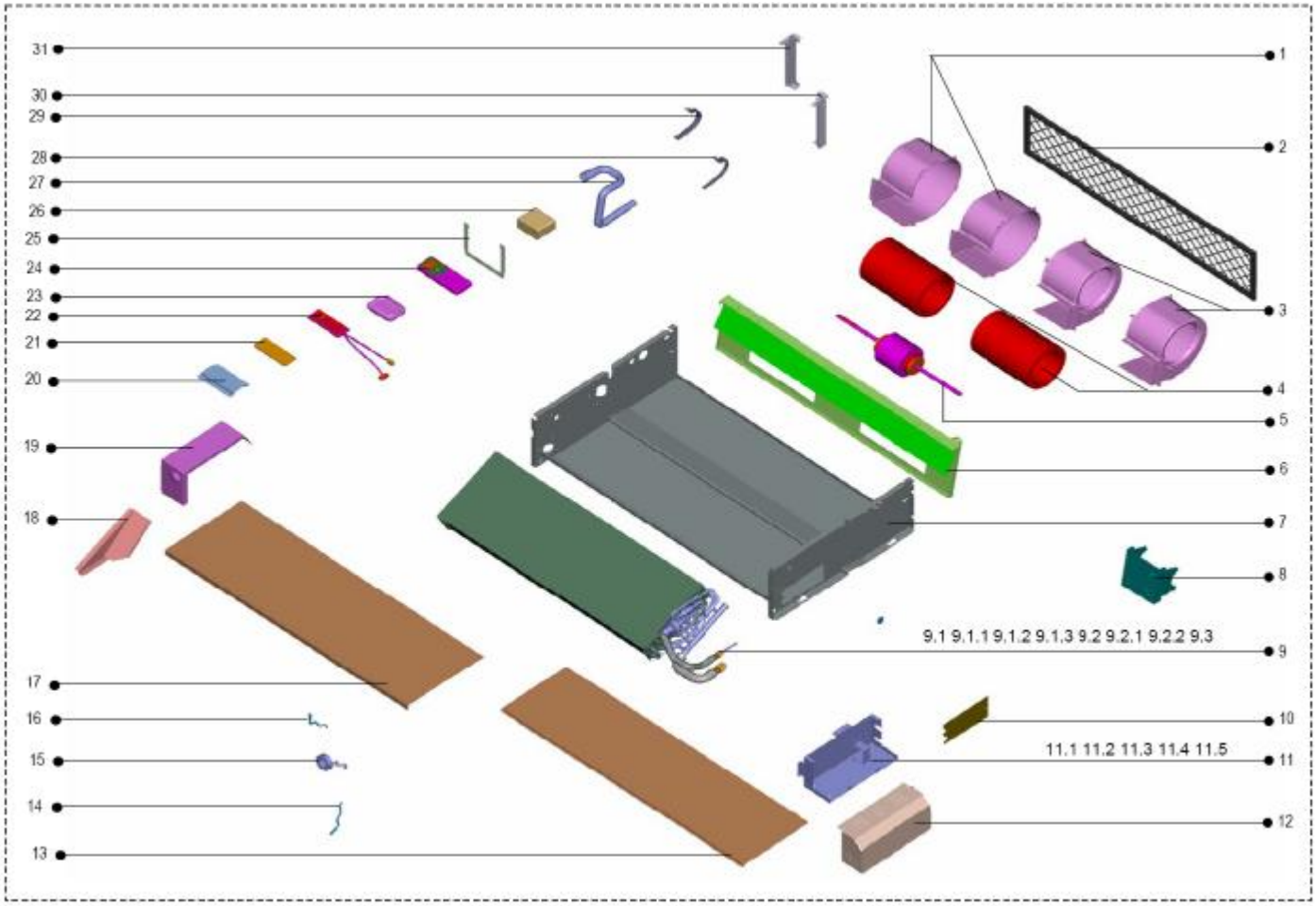


No.	Part name	Quantity
1	Volute shell	2
2	Filter bracket	1
3	Filter bracket	1
4	Filter	1
5	Fan	2
6	Volute shell	2
7	Middle beam	1
8	Base	1
9	E-part box ass'y	1
9.1	Main controller ass'y	1
9.2	E-part box base	1
9.3	Transformer	1
9.4	Wire joint, 2p	1
9.5	Wire joint	1
10	E-Part box cover	1
11	Evaporator ass'y	1
11.1	Input pipe ass'y	1
11.1.1	Electronic expansion valve	1
11.1.2	Copper nut	1
11.1.3	Pipe joint	1
11.2	Output pipe ass'y	1
11.2.1	Copper nut	1
11.2.2	Pipe joint	1

No.	Part name	Quantity
11.3	Temp.sensor ass'y	1
12	Supporting board ass'y	1
13	Temp. sensor	1
14	Right seal board ass'y	1
15	Evaporator connection board ass'y	1
16	EEV solenoid	1
17	Temp.sensor ass'y	1
18	Covering plate	1
19	Covering plate	1
20	Installing board	1
21	Control box cover	1
22	Display board ass'y	1
23	Remote controller holder ass'y	1
24	Remote controller	1
25	Motor	1
26	Strengthen board	1
27	Fixing board	1
28	Fixing board	1
29	Fixing board	1
30	Fixing board	1
31	Drain hose	1
32	Capacitor box	1
33	Motor capacitor	1

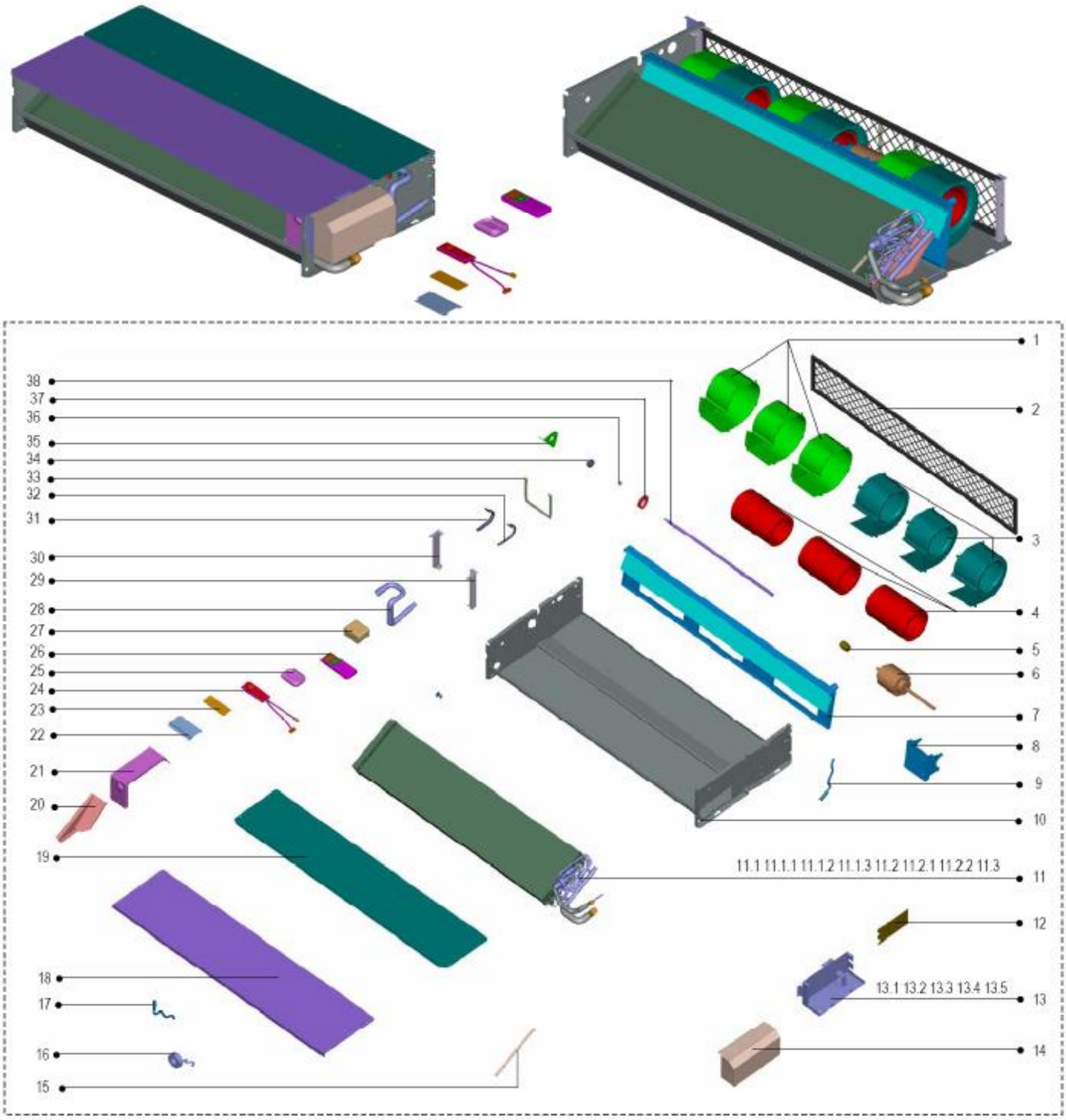
11.10 MDV-D36Z/N1-F3 MDV-D45Z/N1-F3





No.	Part name	Quantity	No.	Part name	Quantity
1	Volute shell	2	11.5	Wire joint	1
2	Filter	1	12	E-Part box cover	1
3	Left volute shell	2	13	Covering plate	1
4	Fan	2	14	Temp. sensor	1
5	Motor	1	15	EEV solenoid	1
6	Middle beam	1	16	Temp.sensor ass'y	1
7	Base	1	17	Covering plate	1
8	Motor bracket	1	18	Supporting board ass'y	1
9	Evaporator ass'y	1	19	Evaporator connection board ass'y	1
9.1	Input pipe ass'y	1	20	Installing board	1
9.1.1	Electronic expansion valve	1	21	Control box cover	1
9.1.2	Copper nut	1	22	Display board ass'y	1
9.1.3	Pipe joint	1	23	Remote controller holder ass'y	1
9.2	Output pipe ass'y	1	24	Remote controller	1
9.2.1	Copper nut	1	25	Board	1
9.2.2	Pipe joint	1	26	Capacitor box	1
9.3	Temp.sensor ass'y	1	27	Drain hose	1
10	Right seal board ass'y	1	28	Motor clamp	1
11	E-part box ass'y	1	29	Motor clamp	1
11.1	Main controller ass'y	1	30	Filter bracket	1
11.2	E-part box base	1	31	Filter bracket	1
11.3	Transformer	1	32	Motor capacitor	1
11.4	Wire joint, 2p	1			

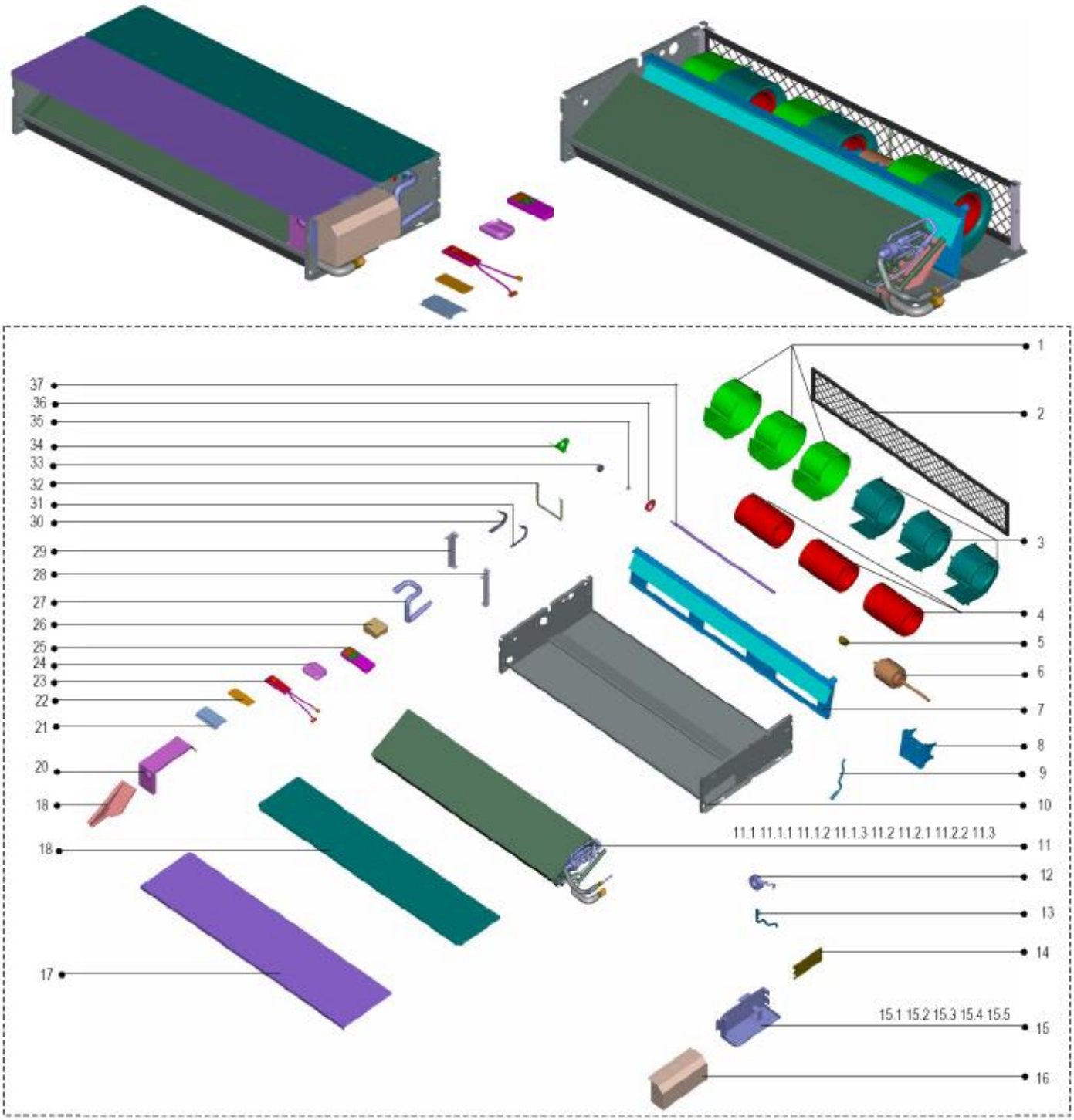
11.11 MDV-D56Z/N1-F3 MDV-D71Z/N1-F3



No.	Part name	Quantity
1	Volute shell	3
2	Filter	1
3	Left volute shell	3
4	Fan	3
5	Coupling	1
6	Motor	1
7	Middle beam	1
8	Motor bracket	1
9	Temp. sensor	1
10	Base	1
11	Evaporator ass'y	1
11.1	Input pipe ass'y	1
11.1.1	Electronic expansion valve	1
11.1.2	Copper nut	1
11.1.3	Pipe joint	1
11.2	Output pipe ass'y	1
11.2.1	Copper nut	1
11.2.2	Pipe joint	1
11.3	Temp.sensor ass'y	1
12	Right seal board ass'y	1
13	E-part box ass'y	1
13.1	Main controller ass'y	1
13.2	E-part box base	1
13.3	Transformer	1
13.4	Wire joint, 2p	1
13.5	Wire joint	1

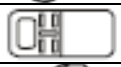
No.	Part name	Quantity
14	E-Part box cover	1
15	Baffle	1
16	EEV solenoid	1
17	Temp.sensor ass'y	1
18	Covering plate	1
19	Covering plate	1
20	Supporting board ass'y	1
21	Evaporator connection board ass'y	1
22	Installing board	1
23	Control box cover	1
24	Display board ass'y	1
25	Remote controller holder ass'y	1
26	Remote controller	1
27	Capacitor box	1
28	Drain hose	1
29	Filter bracket	1
30	Filter bracket	1
31	Motor clamp	1
32	Motor clamp	1
33	Board	1
34	Bearing base	1
35	Bearing supporting board	1
36	Bearing	1
37	Bearing Fixing board	1
38	Connecting shaft	1
39	Motor capacitor	1

11.12 MDV-D80Z/N1-F3



No.	Part name	Quantity
1	Volute shell	3
2	Filter	1
3	Left volute shell	3
4	Fan	3
5	Coupling	1
6	Motor	1
7	Middle beam	1
8	Motor bracket	1
9	Temp. sensor	1
10	Base	1
11	Evaporator ass'y	1
11.1	Input pipe ass'y	1
11.1.1	Electronic expansion valve	1
11.1.2	Copper nut	1
11.1.3	Pipe joint	1
11.2	Output pipe ass'y	1
11.2.1	Copper nut	1
11.2.2	Pipe joint	1
11.3	Temp.sensor ass'y	1
12	EEV solenoid	1
13	Temp.sensor ass'y	1
14	Right seal board ass'y	1
15	E-part box ass'y	1
15.1	Main controller ass'y	1
15.2	E-part box base	1
15.3	Transformer	1
15.4	Wire joint, 2p	1
15.5	Wire joint	1
16	E-Part box cover	1
17	Covering plate	1
18	Covering plate	1
19	Supporting board ass'y	1
20	Evaporator connection board ass'y	1
21	Installing board	1
22	Control box cover	1
23	Display board ass'y	1
24	Remote controller holder ass'y	1
25	Remote controller	1
26	Capacitor box	1
27	Drain hose	1
28	Filter bracket	1
29	Filter bracket	1
30	Motor clamp	1
31	Motor clamp	1
32	Board	1
33	Bearing base	1
34	Bearing supporting board	1
35	Bearing	1
36	Bearing Fixing board	1
37	Connecting shaft	1
38	Motor capacitor	1

12. Accessories

Name of Accessories	Quantity	Outline	Usage
Owner's manual	1	/	/
Installation manual	1	/	/
Pipe insulation material	2		Heat insulation
Signal receiver display board	1		Receive Signal
Mounting screw (ST3.9x12-C-H)	4		/
Remote controller	1		Control the indoor unit
Frame	1		Hold the remote controller
Mounting screw (ST2.9x10-C-H)	2		/
Alkaline dry batteries(AM4)	2		/

Part 3
Outdoor Units

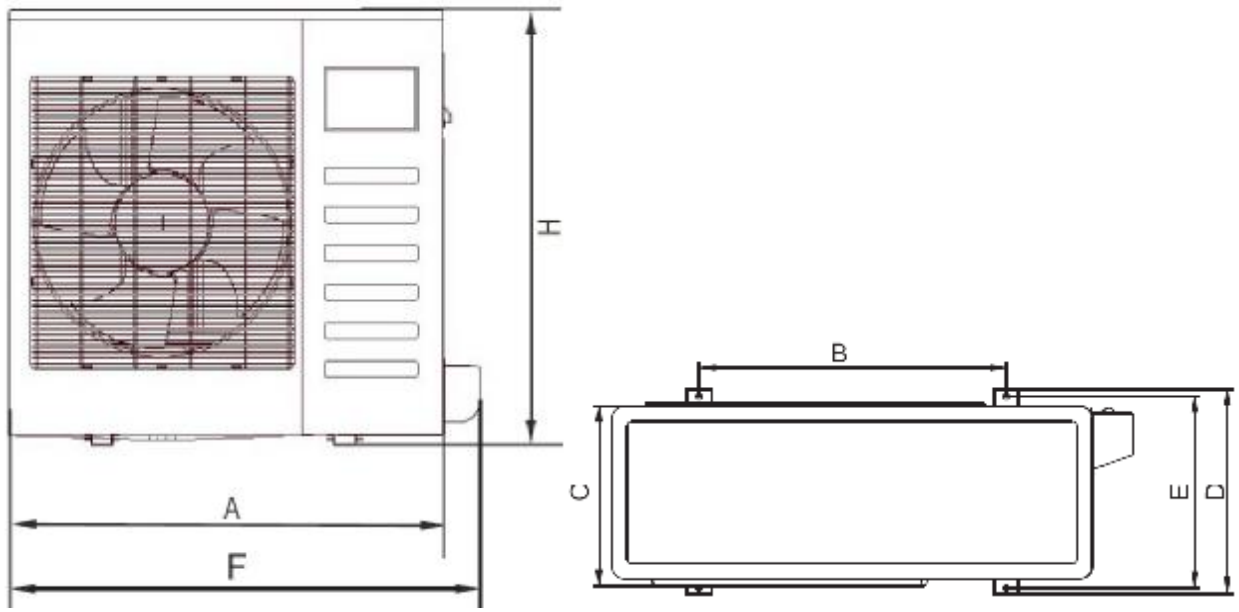
1. Specification 218
2. Dimensions 219
3. Service Space 219
4. Piping Diagrams 219
5. Wiring Diagrams 219
6. Field Wiring 219
7. Capacity Tables 219
8. Electric Characteristics 219
9. Sound Levels 219
10. Exploded View 219
11. Operation Limits 219
12. Troubleshooting 219

1. Specification

Sale Model			MDV-V105W/SN1	MDV-V140W/SN1	MDV-V160W/SN1
Power supply		V-Ph-Hz	380~415-3-50	380~415-3-50	380~415-3-50
Cooling	Capacity	KW	10.5	14	16
	Input	KW	3.38	4.08	4.6
	Rated current	A	6.1	8.3	8.7
Heating	Capacity	KW	12.0	15.5	17.8
	Input	KW	3.61	4.12	4.83
	Rated current	A	6.8	8	8.3
EER/COP	Cooling/Heating	w/w	3.10/3.32	3.43/3.76	3.45/3.68
Max. input consumption		W	6100	6600	7200
Max. current		A	8.9	9.52	10.4
Compressor	Model		E405AHD-36D2		
	Type		SCROLL		
	Brand		HITACHI		
	Supplier		Guangzhou HITACHI		
	Capacity	kBtu/h	11880		
	Input	W	3665		
	Rated current(RLA)	A	9.62		
	Thermal protector		INNER		
	Capacitor	uF	60uF/450V		
	Refrigerant oil	ml	FVC68D/500ml		
Outdoor fan motor	Model		YDK250-6E	YDK100-6A x2	YDK100-6A x2
	Brand		Welling		
	Input	W	307/104	(158/140) x2	(158/140) x2
	Capacitor	uF	10uF±5% 450V	3.5UF/450V x2	3.5UF/450V x2
	Speed	r/min	740/530	890/590	890/590
Outdoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	25.4 x 22	25.4 x 22	25.4 x 22
	Fin spacing	mm	1.7	1.8	1.8
	Fin type (code)		Hydrophilic aluminum		
	Tube outside diameter and type	mm	Φ9.53	Φ9.53	Φ9.53
			Inner groove tube		
	Coil L x H x W	mm	888 x 915 x 44	1186 x 1220 x 44	1186 x 1220 x 44
	Number of circuits		9	4	4
Outdoor air flow		m^3/h	5400/3900	6500/4300	6500/4300
Sound level（sound pressure）		dB(A)	58/56	57/56	57/56
Outdoor unit	Dimension (WxDxH)	mm	990x 966x 396	940x 1245x 400	940x 1245x 400
	Packing (WxDxH)	mm	1120x 1100x 440	1058x 1380x 435	1058x 1380x 435
	Net/Gross weight	kg	104/111	124/130	124/130
Refrigerant	Type		R410A	R410A	R410A
	Charged volume	g	4100	4450	4450
Throttle type			Electron expansion valve		
Design pressure		MPa	4.2/2.0	4.2/2.0	4.2/2.0
Refrigerant piping	Liquid side/ Gas side	mm	Φ9.53/Φ16	Φ9.53/Φ16	Φ9.53/Φ16
	Max. refrigerant pipe length	m	100	100	100
	Max. difference in level	m	20	20	20
Connection wiring	Power wiring	mm^2	5 core x 2.5	5 core x 2.5	5 core x 2.5
	Signal wiring	mm^2	3 core shielded wirex0.5		
Ambient temp		℃	（Cooling -15～48）（Heating -15~21）		
Application area		m^2	52.5～70	70～93	80～106

2. Dimensions

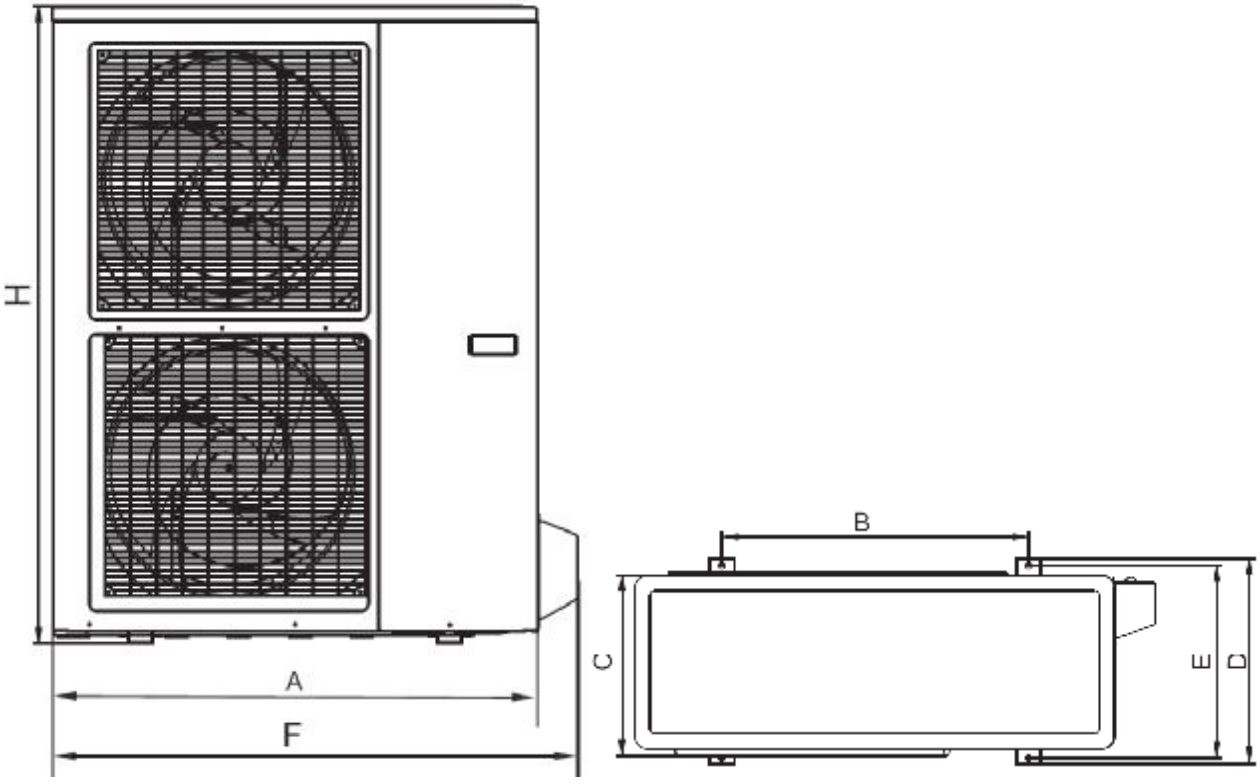
2.1 MDV-V105W/SN1



mm

MODEL	A	B	C	D	E	F	H
MDV-V105W/SN1	990	624	354	396	366	1075	966

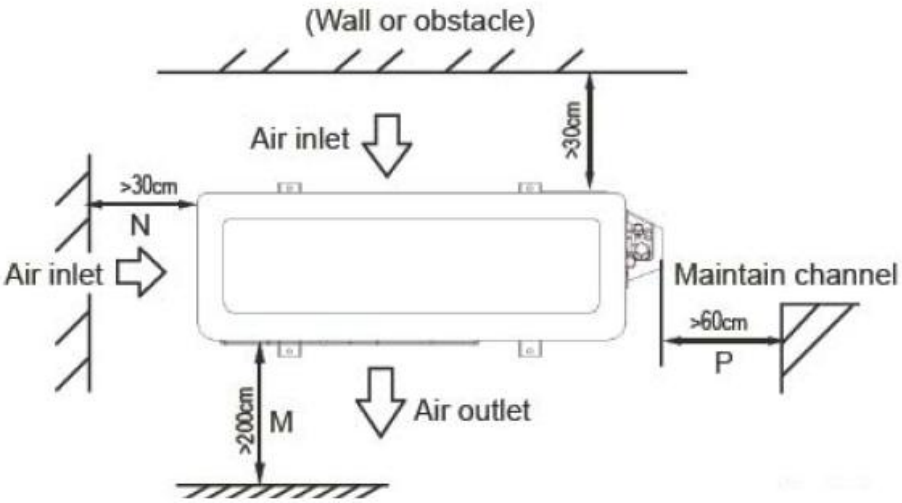
2.2 MDV-V140W/SN1、MDV-V160W/SN1

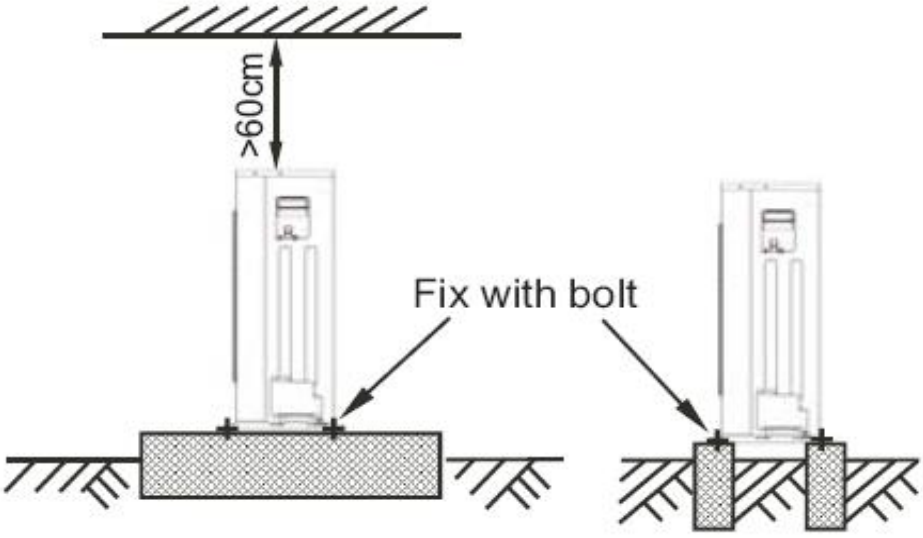


mm

MODEL	A	B	C	D	E	F	H
MDV-V140W/SN1	940	600	360	400	376	1020	1245
MDV-V160W/SN1	940	600	360	400	376	1020	1245

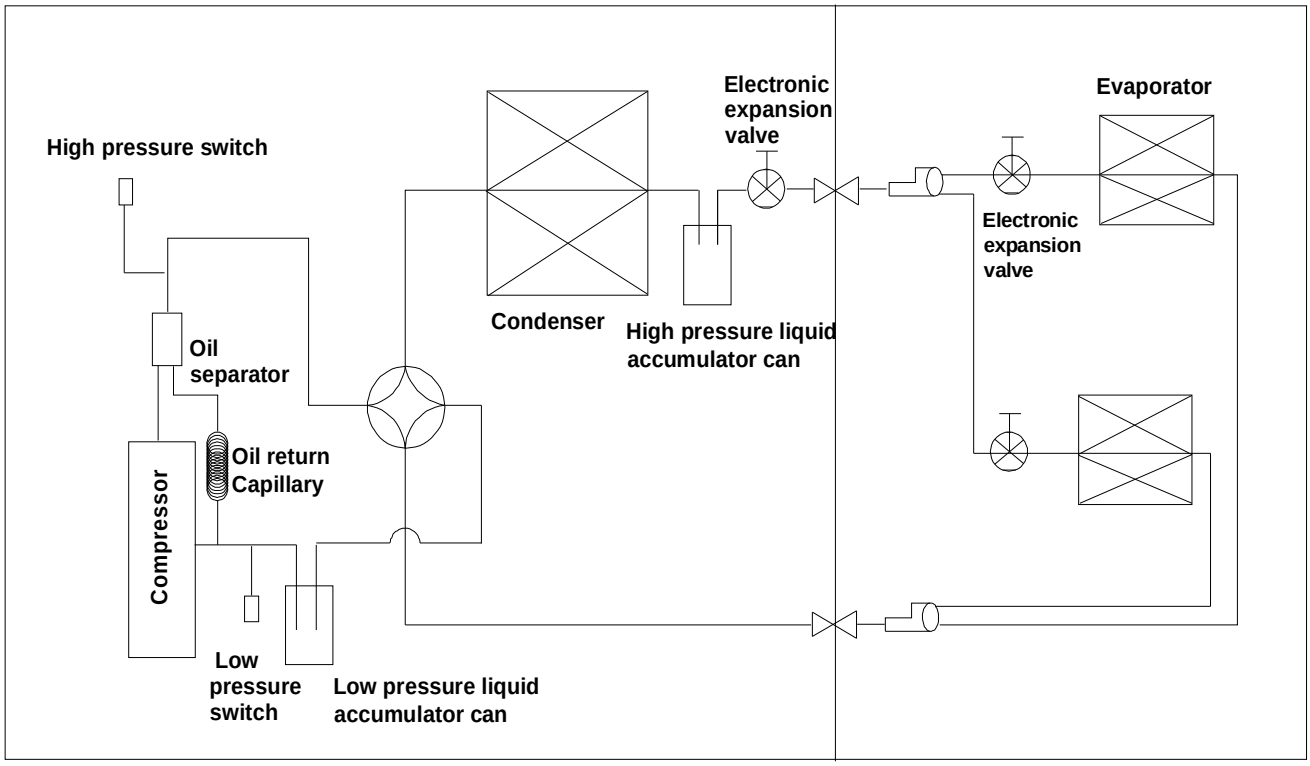
3. Service Space





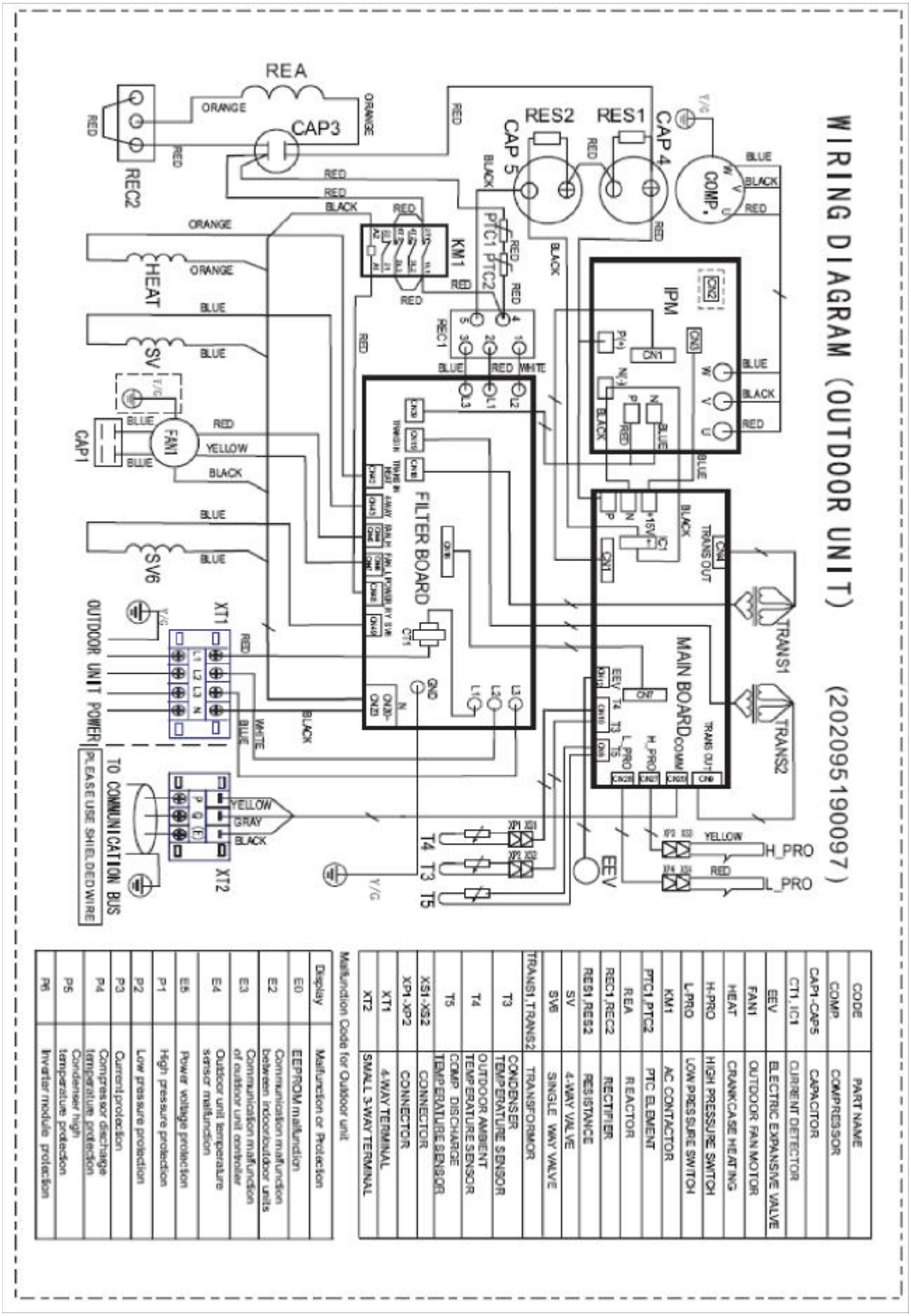
4. Piping Diagrams

MDV-V105W/SN1、MDV-V140W/SN1、MDV-V160W/SN1



5. Wiring Diagrams

5.1 MDV-V105W/SN1

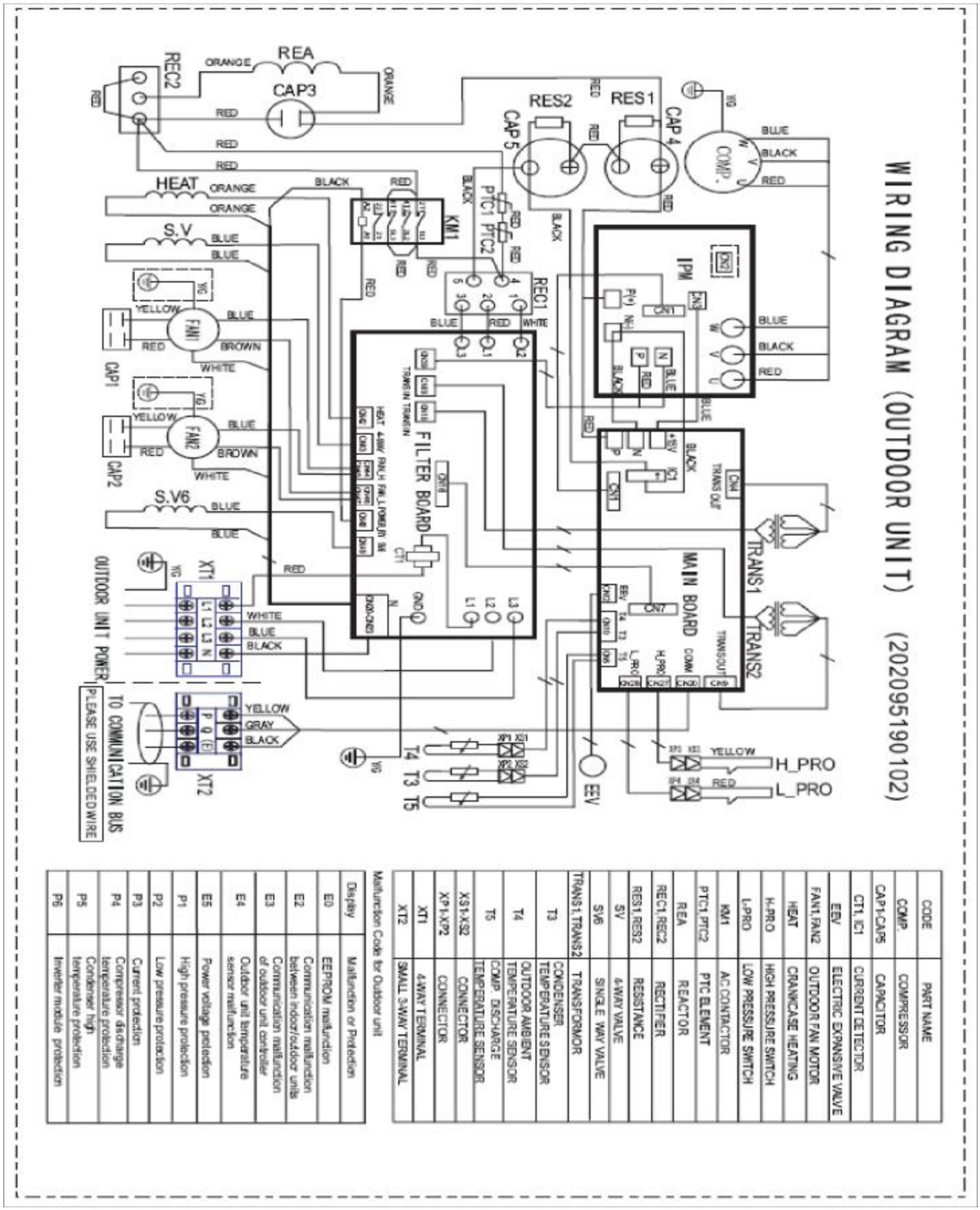


CODE	PART NAME
COMP.	COMPRESSOR
CAP1-CAP5	CAPACITOR
CT1, IC1	CURRENT DETECTOR
EEV	ELECTRIC EXPANSIVE VALVE
FAN1	OUTDOOR FAN MOTOR
HEAT	CRANKCASE HEATING
H-PRO	HIGH PRESSURE SWITCH
L-PRO	LOW PRESSURE SWITCH
KM1	AC CONTACTOR
PTC1,PTC2	PTC ELEMENT
REA	REACTOR
REC1,REC2	RECTIFIER
RES1,RES2	RESISTANCE
SV	4-WAY VALVE
SV6	SINGLE WAY VALVE
TRANS1,TRANS2	TRANSFORMER
T3	CONDENSER TEMPERATURE SENSOR
T4	OUTDOOR AMBIENT TEMPERATURE SENSOR
T5	COMP. DISCHARGE TEMPERATURE SENSOR
XS1-XS2	CONNECTOR
XP1-XP2	CONNECTOR
XT1	4-WAY TERMINAL
XT2	SMALL 3-WAY TERMINAL

Malfunction Code for Outdoor unit

Display	Malfunction or Protection
E0	EEPROM malfunction
E2	Communication malfunction between indoor/outdoor units
E3	Communication malfunction of outdoor unit controller
E4	Outdoor unit temperature sensor malfunction
E5	Power voltage protection
P1	High pressure protection
P2	Low pressure protection
P3	Current protection
P4	Compressor discharge temperature protection
P5	Condenser high temperature protection
P6	Invertor module protection

5.2 MDV-V140W/SN1 MDV-V160W/SN1

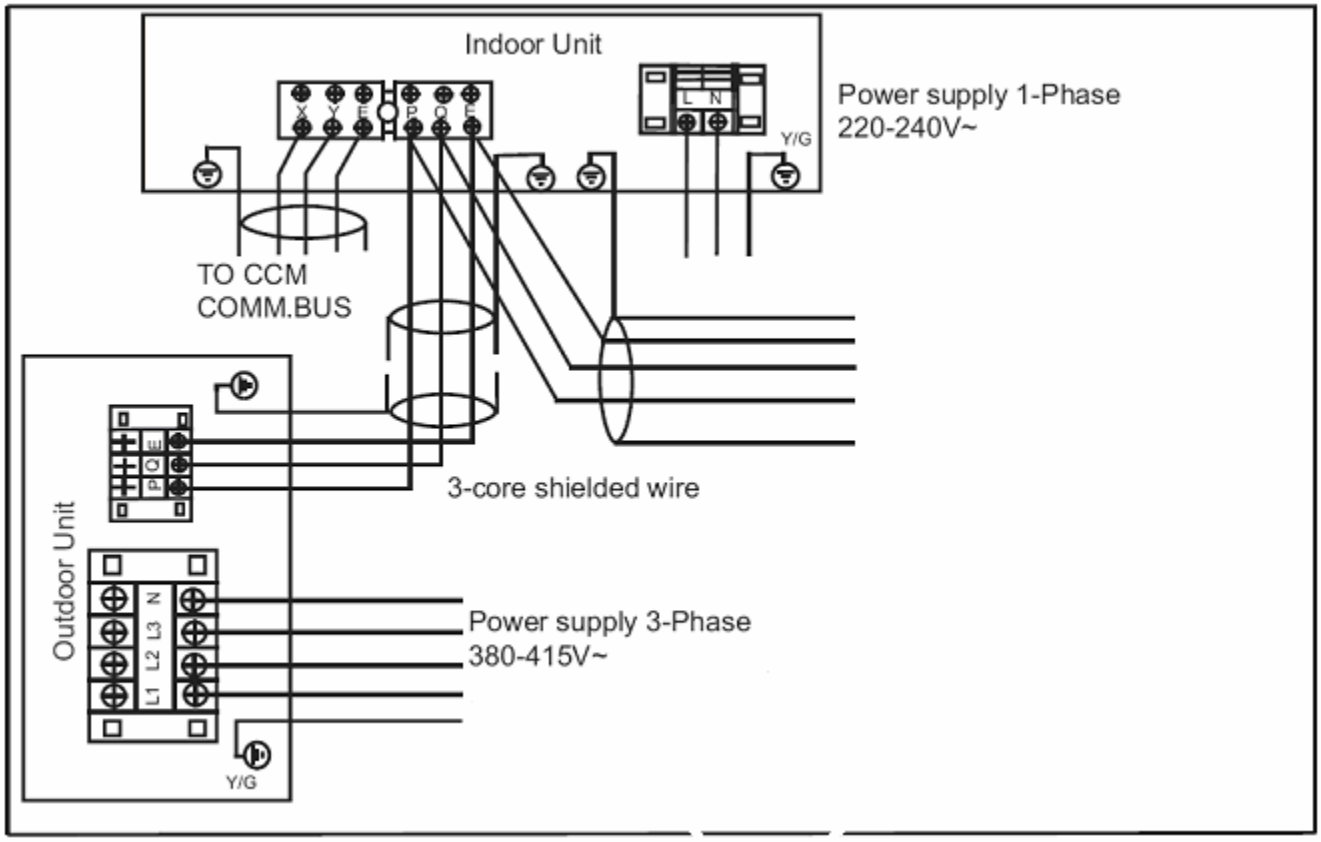


CODE	PART NAME
COMP.	COMPRESSOR
CAP1-CAP5	CAPACITOR
CT1, IC1	CURRENT DETECTOR
EEV	ELECTRIC EXPANSIVE VALVE
FAN1,FAN2	OUTDOOR FAN MOTOR
HEAT	CRANKCASE HEATING
H-PRO	HIGH PRESSURE SWITCH
L-PRO	LOW PRESSURE SWITCH
KM1	AC CONTACTOR
PTC1,PTC2	PTC ELEMENT
REA	REACTOR
REC1,REC2	RECTIFIER
RES1,RES2	RESISTANCE
SV	4-WAY VALVE
SV6	SINGLE WAY VALVE
TRANS1,TRANS2	TRANSFORMOR
T3	CONDENSER TEMPERATURE SENSOR
T4	OUTDOOR AMBIENT TEMPERATURE SENSOR
T5	COMP. DISCHARGE TEMPERATURE SENSOR
XS1-XS2	CONNECTOR
XP1-XP2	CONNECTOR
XT1	4-WAY TERMINAL
XT2	SMALL 3-WAY TERMINAL

Malfunction Code for Outdoor unit

Display	Malfunction or Protection
E0	EEPROM malfunction
E2	Communication malfunction between indoor/outdoor units
E3	Communication malfunction of outdoor unit controller
E4	Outdoor unit temperature sensor malfunction
E5	Power voltage protection
P1	High pressure protection
P2	Low pressure protection
P3	Current protection
P4	Compressor discharge temperature protection
P5	Condenser high temperature protection
P6	Inverter module protection

6. Field Wiring



For 36000-60000Btu/h

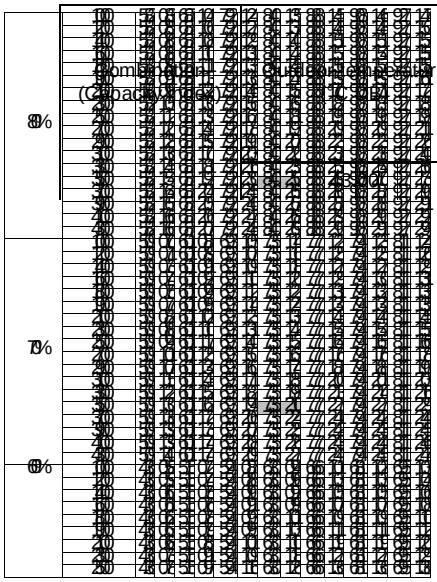
7. Capacity Tables

MDV-V105W/SN1

Cooling

Combination (Capacity index)	Outdoor temperature (°C DB)	Indoor temperature(°C WB)													
		14.00		16.00		18.00		19.00		20.00		22.00		24.00	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	10.00	7.97	1.23	9.41	1.54	10.85	1.84	11.51	1.99	12.17	2.15	12.44	2.16	12.70	2.18
	12.00	7.97	1.26	9.41	1.56	10.85	1.87	11.51	2.03	12.17	2.19	12.44	2.20	12.70	2.22
	14.00	7.97	1.28	9.41	1.59	10.85	1.91	11.51	2.07	12.17	2.23	12.44	2.24	12.70	2.26
	16.00	7.97	1.30	9.41	1.62	10.85	1.94	11.51	2.10	12.17	2.27	12.44	2.28	12.70	2.30
	18.00	7.97	1.32	9.41	1.65	10.85	1.97	11.51	2.14	12.17	2.31	12.44	2.32	12.70	2.34
	19.00	7.97	1.35	9.41	1.68	10.85	2.01	11.51	2.18	12.17	2.35	12.44	2.36	12.70	2.38
	21.00	7.97	1.44	9.41	1.80	10.85	2.15	11.51	2.34	12.17	2.52	12.44	2.53	12.70	2.55
	23.00	7.97	1.55	9.41	1.93	10.85	2.31	11.51	2.50	12.17	2.70	12.44	2.70	12.70	2.73
	25.00	7.97	1.16	9.41	2.06	10.85	2.47	11.51	2.68	12.17	2.89	12.44	2.89	12.70	2.92
	27.00	7.97	1.77	9.41	2.20	10.85	2.64	11.51	2.86	12.17	3.08	12.44	3.09	12.70	3.12
	29.00	7.97	1.89	9.41	2.35	10.85	2.82	11.51	3.06	12.17	3.29	12.44	3.30	12.70	3.34
	31.00	7.97	2.01	9.41	2.51	10.85	3.00	11.51	3.26	12.17	3.51	12.44	3.52	12.70	3.56
	33.00	7.97	2.14	9.41	2.67	10.85	3.20	11.51	3.47	12.17	3.74	12.44	3.75	12.70	3.79
	35.00	7.97	2.28	9.41	2.84	10.85	3.40	11.51	3.69	12.17	3.98	12.44	3.99	12.70	4.03
	37.00	7.97	2.43	9.41	3.02	10.85	3.62	11.51	3.93	12.17	4.23	12.44	4.25	12.70	4.29
	39.00	7.97	2.44	9.41	3.04	10.85	3.64	11.51	3.94	12.17	4.25	12.44	4.26	12.70	4.31
	41.00	7.97	2.45	9.41	3.05	10.85	3.65	11.51	3.96	12.17	4.27	12.44	4.28	12.70	4.33
	43.00	7.97	2.46	9.41	3.06	10.85	3.67	11.51	3.98	12.17	4.29	12.44	4.30	12.70	4.35
120%	10.00	7.84	1.22	9.26	1.52	10.67	1.82	11.32	1.97	11.98	2.13	12.24	2.14	12.50	2.16
	12.00	7.84	1.24	9.26	1.55	10.67	1.85	11.32	2.01	11.98	2.17	12.24	2.17	12.50	2.20
	14.00	7.84	1.27	9.26	1.58	10.67	1.89	11.32	2.05	11.98	2.21	12.24	2.21	12.50	2.24
	16.00	7.84	1.29	9.26	1.60	10.67	1.92	11.32	2.08	11.98	2.25	12.24	2.25	12.50	2.28
	18.00	7.84	1.31	9.26	1.63	10.67	1.96	11.32	2.12	11.98	2.29	12.24	2.29	12.50	2.32
	19.00	7.84	1.33	9.26	1.66	10.67	1.99	11.32	2.16	11.98	2.33	12.24	2.33	12.50	2.36
	21.00	7.84	1.43	9.26	1.78	10.67	2.13	11.32	2.31	11.98	2.49	12.24	2.50	12.50	2.53
	23.00	7.84	1.53	9.26	1.91	10.67	2.28	11.32	2.48	11.98	2.67	12.24	2.68	12.50	2.70
	25.00	7.84	1.64	9.26	2.04	10.67	2.44	11.32	2.65	11.98	2.86	12.24	2.87	12.50	2.89
	27.00	7.84	1.75	9.26	2.18	10.67	2.61	11.32	2.83	11.98	3.06	12.24	3.06	12.50	3.09
	29.00	7.84	1.87	9.26	2.33	10.67	2.79	11.32	3.03	11.98	3.26	12.24	3.27	12.50	3.30
	31.00	7.84	1.99	9.26	2.48	10.67	2.98	11.32	3.23	11.98	3.48	12.24	3.49	12.50	3.52
	33.00	7.84	2.12	9.26	2.65	10.67	3.17	11.32	3.44	11.98	3.71	12.24	3.72	12.50	3.75
	35.00	7.84	2.26	9.26	2.82	10.67	3.37	11.32	3.66	11.98	3.94	12.24	3.95	12.50	3.99
	37.00	7.84	2.40	9.26	2.99	10.67	3.59	11.32	3.89	11.98	4.19	12.24	4.21	12.50	4.25
	39.00	7.84	2.41	9.26	3.01	10.67	3.60	11.32	3.91	11.98	4.21	12.24	4.22	12.50	4.26
	41.00	7.84	2.42	9.26	3.02	10.67	3.62	11.32	3.92	11.98	4.23	12.24	4.24	12.50	4.28
	43.00	7.84	2.44	9.26	3.04	10.67	3.63	11.32	3.94	11.98	4.25	12.24	4.26	12.50	4.30
110%	10.00	7.71	0.62	9.11	0.77	10.50	0.92	11.14	1.00	11.78	1.08	12.04	1.08	12.29	1.09
	12.00	7.71	0.63	9.11	0.78	10.50	0.94	11.14	1.02	11.78	1.10	12.04	1.10	12.29	1.11
	14.00	7.71	0.64	9.11	0.80	10.50	0.95	11.14	1.04	11.78	1.12	12.04	1.12	12.29	1.13
	16.00	7.71	0.65	9.11	0.81	10.50	0.97	11.14	1.05	11.78	1.14	12.04	1.14	12.29	1.15
	18.00	7.71	0.66	9.11	0.83	10.50	0.99	11.14	1.07	11.78	1.16	12.04	1.16	12.29	1.17
	19.00	7.71	0.67	9.11	0.84	10.50	1.01	11.14	1.09	11.78	1.18	12.04	1.18	12.29	1.19
	21.00	7.71	0.72	9.11	0.90	10.50	1.08	11.14	1.17	11.78	1.26	12.04	1.26	12.29	1.28

Combination (Capacity index)	Outdoor temperature (°C DB)	Indoor temperature(°C WB)													
		14.00		16.00		18.00		19.00		20.00		22.00		24.00	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	23.00	7.71	0.77	9.11	0.96	10.50	1.15	11.14	1.25	11.78	1.35	12.04	1.35	12.29	1.37
	25.00	7.71	0.83	9.11	1.03	10.50	1.24	11.14	1.34	11.78	1.44	12.04	1.45	12.29	1.46
	27.00	7.71	0.89	9.11	1.10	10.50	1.32	11.14	1.43	11.78	1.54	12.04	1.55	12.29	1.56
	29.00	7.71	0.95	9.11	1.18	10.50	1.41	11.14	1.53	11.78	1.65	12.04	1.65	12.29	1.67
	31.00	7.71	1.01	9.11	1.26	10.50	1.50	11.14	1.63	11.78	1.76	12.04	1.76	12.29	1.78
	33.00	7.71	1.07	9.11	1.34	10.50	1.60	11.14	1.74	11.78	1.87	12.04	1.88	12.29	1.90
	35.00	7.71	1.14	9.11	1.42	10.50	1.70	11.14	1.85	11.78	1.99	12.04	2.00	12.29	2.02
	37.00	7.71	1.22	9.11	1.51	10.50	1.81	11.14	1.97	11.78	2.12	12.04	2.13	12.29	2.15
	39.00	7.71	1.22	9.11	1.52	10.50	1.82	11.14	1.97	11.78	2.13	12.04	2.14	12.29	2.16
	41.00	7.71	1.23	9.11	1.53	10.50	1.83	11.14	1.98	11.78	2.14	12.04	2.15	12.29	2.17
	43.00	7.71	1.23	9.11	1.53	10.50	1.84	11.14	1.99	11.78	2.15	12.04	2.16	12.29	2.18
100%	10.00	7.27	1.13	8.58	1.41	9.90	1.68	10.50	1.83	11.10	1.97	11.35	1.97	11.59	1.99
	12.00	7.27	1.15	8.58	1.43	9.90	1.71	10.50	1.86	11.10	2.00	11.35	2.01	11.59	2.03
	14.00	7.27	1.17	8.58	1.46	9.90	1.75	10.50	1.89	11.10	2.04	11.35	2.05	11.59	2.07
	16.00	7.27	1.19	8.58	1.48	9.90	1.78	10.50	1.93	11.10	2.08	11.35	2.08	11.59	2.10
	18.00	7.27	1.21	8.58	1.51	9.90	1.81	10.50	1.96	11.10	2.11	11.35	2.12	11.59	2.14
	19.00	7.27	1.23	8.58	1.54	9.90	1.84	10.50	1.99	11.10	2.15	11.35	2.16	11.59	2.18
	21.00	7.27	1.32	8.58	1.65	9.90	1.97	10.50	2.14	11.10	2.30	11.35	2.31	11.59	2.33
	23.00	7.27	1.42	8.58	1.76	9.90	2.11	10.50	2.29	11.10	2.47	11.35	2.48	11.59	2.50
	25.00	7.27	1.51	8.58	1.89	9.90	2.26	10.50	2.45	11.10	2.64	11.35	2.65	11.59	2.68
	27.00	7.27	1.62	8.58	2.02	9.90	2.42	10.50	2.62	11.10	2.82	11.35	2.83	11.59	2.86
	29.00	7.27	1.73	8.58	2.15	9.90	2.58	10.50	2.80	11.10	3.02	11.35	3.02	11.59	3.05
	31.00	7.27	1.84	8.58	2.30	9.90	2.75	10.50	2.98	11.10	3.22	11.35	3.23	11.59	3.26
	33.00	7.27	1.96	8.58	2.45	9.90	2.93	10.50	3.18	11.10	3.43	11.35	3.44	11.59	3.47
	35.00	7.27	2.09	8.58	2.60	9.90	3.12	10.50	3.38	11.10	3.64	11.35	3.65	11.59	3.69
	37.00	7.27	2.22	8.58	2.77	9.90	3.31	10.50	3.59	11.10	3.88	11.35	3.89	11.59	3.92
	39.00	7.27	2.23	8.58	2.78	9.90	3.33	10.50	3.61	11.10	3.89	11.35	3.90	11.59	3.94
	41.00	7.27	2.24	8.58	2.79	9.90	3.34	10.50	3.63	11.10	3.91	11.35	3.92	11.59	3.96
	43.00	7.27	2.25	8.58	2.81	9.90	3.36	10.50	3.64	11.10	3.93	11.35	3.94	11.59	3.98
90%	10.00	6.54	0.98	7.73	1.21	8.91	1.45	9.45	1.58	9.99	1.70	10.21	1.71	10.43	1.72
	12.00	6.54	0.99	7.73	1.24	8.91	1.48	9.45	1.61	9.99	1.73	10.21	1.74	10.43	1.75
	14.00	6.54	1.01	7.73	1.26	8.91	1.51	9.45	1.64	9.99	1.76	10.21	1.77	10.43	1.79
	16.00	6.54	1.03	7.73	1.28	8.91	1.54	9.45	1.67	9.99	1.80	10.21	1.80	10.43	1.82
	18.00	6.54	1.05	7.73	1.30	8.91	1.56	9.45	1.69	9.99	1.83	10.21	1.83	10.43	1.85
	19.00	6.54	1.07	7.73	1.33	8.91	1.59	9.45	1.72	9.99	1.86	10.21	1.86	10.43	1.88
	21.00	6.54	1.14	7.73	1.42	8.91	1.70	9.45	1.85	9.99	1.99	10.21	2.00	10.43	2.02
	23.00	6.54	1.22	7.73	1.52	8.91	1.83	9.45	1.98	9.99	2.13	10.21	2.14	10.43	2.16
	25.00	6.54	1.31	7.73	1.63	8.91	1.95	9.45	2.12	9.99	2.28	10.21	2.29	10.43	2.31
	27.00	6.54	1.40	7.73	1.74	8.91	2.09	9.45	2.26	9.99	2.44	10.21	2.45	10.43	2.47
	29.00	6.54	1.49	7.73	1.86	8.91	2.23	9.45	2.42	9.99	2.61	10.21	2.61	10.43	2.64
	31.00	6.54	1.59	7.73	1.99	8.91	2.38	9.45	2.58	9.99	2.78	10.21	2.79	10.43	2.82
	33.00	6.54	1.70	7.73	2.11	8.91	2.53	9.45	2.75	9.99	2.96	10.21	2.97	10.43	3.00
	35.00	6.54	1.81	7.73	2.25	8.91	2.69	9.45	2.92	9.99	3.15	10.21	3.16	10.43	3.19
	37.00	6.54	1.92	7.73	2.39	8.91	2.87	9.45	3.11	9.99	3.35	10.21	3.36	10.43	3.39
	39.00	6.54	1.93	7.73	2.40	8.91	2.88	9.45	3.12	9.99	3.36	10.21	3.38	10.43	3.41
	41.00	6.54	1.94	7.73	2.41	8.91	2.89	9.45	3.14	9.99	3.38	10.21	3.39	10.43	3.42



Indoor temperature(°C WB)														
14.00		16.00		18.00		19.00		20.00		22.00		24.00	
TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
6.54	1.95	7.73	2.43	8.91	2.90	9.45	3.15	9.99	3.40	10.21	3.41	10.43	3.44

Combination (Capacity index)	Outdoor temperature (°C DB)	Indoor temperature(°C WB)													
		14.00		16.00		18.00		19.00		20.00		22.00		24.00	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	27.00	4.36	0.83	5.15	1.04	5.94	1.24	6.30	1.35	6.66	1.45	6.81	1.46	6.95	1.47
	29.00	4.36	0.89	5.15	1.11	5.94	1.33	6.30	1.44	6.66	1.55	6.81	1.56	6.95	1.57
	31.00	4.36	0.95	5.15	1.18	5.94	1.42	6.30	1.54	6.66	1.66	6.81	1.66	6.95	1.68
	33.00	4.36	1.01	5.15	1.26	5.94	1.51	6.30	1.64	6.66	1.76	6.81	1.77	6.95	1.79
	35.00	4.36	1.08	5.15	1.34	5.94	1.60	6.30	1.74	6.66	1.88	6.81	1.88	6.95	1.90
	37.00	4.36	1.14	5.15	1.42	5.94	1.71	6.30	1.85	6.66	1.99	6.81	2.00	6.95	2.02
	39.00	4.36	1.15	5.15	1.43	5.94	1.71	6.30	1.86	6.66	2.00	6.81	2.01	6.95	2.03
	41.00	4.36	1.15	5.15	1.44	5.94	1.72	6.30	1.87	6.66	2.01	6.81	2.02	6.95	2.04
	43.00	4.36	1.16	5.15	1.44	5.94	1.73	6.30	1.88	6.66	2.02	6.81	2.03	6.95	2.05
50%	10.00	3.64	0.47	4.29	0.59	4.95	0.70	5.25	0.76	5.55	0.82	5.67	0.82	5.79	0.83
	12.00	3.64	0.48	4.29	0.60	4.95	0.71	5.25	0.78	5.55	0.84	5.67	0.84	5.79	0.85
	14.00	3.64	0.49	4.29	0.61	4.95	0.73	5.25	0.79	5.55	0.85	5.67	0.85	5.79	0.86
	16.00	3.64	0.50	4.29	0.62	4.95	0.74	5.25	0.80	5.55	0.87	5.67	0.87	5.79	0.88
	18.00	3.64	0.51	4.29	0.63	4.95	0.75	5.25	0.82	5.55	0.88	5.67	0.88	5.79	0.89
	19.00	3.64	0.51	4.29	0.64	4.95	0.77	5.25	0.83	5.55	0.90	5.67	0.90	5.79	0.91
	21.00	3.64	0.55	4.29	0.69	4.95	0.82	5.25	0.89	5.55	0.96	5.67	0.96	5.79	0.97
	23.00	3.64	0.59	4.29	0.74	4.95	0.88	5.25	0.95	5.55	1.03	5.67	1.03	5.79	1.04
	25.00	3.64	0.63	4.29	0.79	4.95	0.94	5.25	1.02	5.55	1.10	5.67	1.10	5.79	1.12
	27.00	3.64	0.68	4.29	0.84	4.95	1.01	5.25	1.09	5.55	1.18	5.67	1.18	5.79	1.19
	29.00	3.64	0.72	4.29	0.90	4.95	1.08	5.25	1.17	5.55	1.26	5.67	1.26	5.79	1.27
	31.00	3.64	0.77	4.29	0.96	4.95	1.15	5.25	1.24	5.55	1.34	5.67	1.34	5.79	1.36
	33.00	3.64	0.82	4.29	1.02	4.95	1.22	5.25	1.32	5.55	1.43	5.67	1.43	5.79	1.45
	35.00	3.64	0.87	4.29	1.09	4.95	1.30	5.25	1.41	5.55	1.52	5.67	1.52	5.79	1.54
	37.00	3.64	0.93	4.29	1.15	4.95	1.38	5.25	1.50	5.55	1.62	5.67	1.62	5.79	1.64
	39.00	3.64	0.93	4.29	1.16	4.95	1.39	5.25	1.51	5.55	1.62	5.67	1.63	5.79	1.64
	41.00	3.64	0.93	4.29	1.16	4.95	1.39	5.25	1.51	5.55	1.63	5.67	1.64	5.79	1.65
	43.00	3.64	0.94	4.29	1.17	4.95	1.40	5.25	1.52	5.55	1.64	5.67	1.64	5.79	1.66

Heating

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-14.7	-15	8.38	3.17	8.38	3.23	8.38	3.30	8.05	3.16	7.72	3.01	7.05	2.72
	-12.6	-13	8.85	3.22	8.85	3.29	8.85	3.36	8.50	3.21	8.15	3.06	7.44	2.77
	-10.5	-11	9.31	3.27	9.31	3.34	9.31	3.41	8.94	3.26	8.57	3.11	7.84	2.81
	-9.5	-10	9.54	3.29	9.54	3.37	9.54	3.44	9.16	3.28	8.78	3.13	8.02	2.83
	-8.5	-9.1	9.76	3.32	9.76	3.39	9.76	3.46	9.37	3.31	8.98	3.16	8.21	2.85
	-7	-7.6	10.09	3.36	10.09	3.43	10.09	3.50	9.69	3.35	9.29	3.19	8.49	2.89
	-5	-5.6	10.54	3.41	10.54	3.48	10.54	3.55	10.12	3.40	9.70	3.24	8.86	2.93
	-3	-3.7	10.98	3.46	10.98	3.53	10.98	3.60	10.54	3.45	10.11	3.29	9.24	2.97
	0	-0.7	11.65	3.53	11.65	3.61	11.65	3.68	11.18	3.52	10.72	3.36	9.80	3.04
	3	2.2	12.31	3.61	12.31	3.68	12.31	3.76	11.82	3.60	11.33	3.43	10.36	3.10
	5	4.1	12.76	3.66	12.76	3.73	12.76	3.81	12.25	3.64	11.74	3.48	10.73	3.14
	7	6	13.20	3.71	13.20	3.78	13.20	3.86	12.68	3.69	12.15	3.53	11.10	3.19
	9	7.9	13.20	3.58	13.20	3.66	13.20	3.73	12.68	3.57	12.15	3.41	11.10	3.08
	11	9.8	13.20	3.46	13.20	3.53	13.20	3.60	12.68	3.45	12.15	3.29	11.10	2.97
	13	11.8	13.20	3.33	13.20	3.40	13.20	3.47	12.68	3.32	12.15	3.17	11.10	2.87
	15	13.7	13.20	3.21	13.20	3.28	13.20	3.34	12.68	3.20	12.15	3.05	11.10	2.76
120%	-14.7	-15	8.38	3.26	8.38	3.33	8.38	3.40	8.05	3.25	7.72	3.10	7.05	2.80
	-12.6	-13	8.85	3.31	8.85	3.38	8.85	3.45	8.50	3.30	8.15	3.15	7.44	2.85
	-10.5	-11	9.31	3.37	9.31	3.44	9.31	3.51	8.94	3.36	8.57	3.20	7.84	2.89
	-9.5	-10	9.54	3.39	9.54	3.46	9.54	3.54	9.16	3.38	8.78	3.23	8.02	2.92
	-8.5	-9.1	9.76	3.42	9.76	3.49	9.76	3.56	9.37	3.41	8.98	3.25	8.21	2.94
	-7	-7.6	10.09	3.46	10.09	3.53	10.09	3.60	9.69	3.45	9.29	3.29	8.49	2.97
	-5	-5.6	10.54	3.51	10.54	3.58	10.54	3.66	10.12	3.50	9.70	3.34	8.86	3.02
	-3	-3.7	10.98	3.56	10.98	3.63	10.98	3.71	10.54	3.55	10.11	3.39	9.24	3.06
	0	-0.7	11.65	3.64	11.65	3.71	11.65	3.79	11.18	3.62	10.72	3.46	9.80	3.13
	3	2.2	12.31	3.71	12.31	3.79	12.31	3.87	11.82	3.70	11.33	3.53	10.36	3.19
	5	4.1	12.76	3.76	12.76	3.84	12.76	3.92	12.25	3.75	11.74	3.58	10.73	3.24
	7	6	13.20	3.81	13.20	3.90	13.20	3.98	12.68	3.80	12.15	3.63	11.10	3.28
	9	7.9	13.20	3.69	13.20	3.77	13.20	3.84	12.68	3.68	12.15	3.51	11.10	3.17
	11	9.8	13.20	3.56	13.20	3.63	13.20	3.71	12.68	3.55	12.15	3.39	11.10	3.06
	13	11.8	13.20	3.43	13.20	3.50	13.20	3.58	12.68	3.42	12.15	3.26	11.10	2.95
	15	13.7	13.20	3.30	13.20	3.37	13.20	3.44	12.68	3.29	12.15	3.14	11.10	2.84
110%	-14.7	-15	8.38	3.35	8.38	3.42	8.38	3.49	8.05	3.34	7.72	3.19	7.05	2.88
	-12.6	-13	8.85	3.41	8.85	3.48	8.85	3.55	8.50	3.40	8.15	3.24	7.44	2.93
	-10.5	-11	9.31	3.46	9.31	3.54	9.31	3.61	8.94	3.45	8.57	3.29	7.84	2.98
	-9.5	-10	9.54	3.49	9.54	3.56	9.54	3.64	9.16	3.48	8.78	3.32	8.02	3.00
	-8.5	-9.1	9.76	3.52	9.76	3.59	9.76	3.67	9.37	3.50	8.98	3.34	8.21	3.02
	-7	-7.6	10.09	3.55	10.09	3.63	10.09	3.71	9.69	3.54	9.29	3.38	8.49	3.06
	-5	-5.6	10.54	3.61	10.54	3.68	10.54	3.76	10.12	3.60	9.70	3.43	8.86	3.10
	-3	-3.7	10.98	3.66	10.98	3.74	10.98	3.82	10.54	3.65	10.11	3.48	9.24	3.15
	0	-0.7	11.65	3.74	11.65	3.82	11.65	3.90	11.18	3.73	10.72	3.56	9.80	3.22
	3	2.2	12.31	3.82	12.31	3.90	12.31	3.98	11.82	3.81	11.33	3.63	10.36	3.28
	5	4.1	12.76	3.87	12.76	3.95	12.76	4.04	12.25	3.86	11.74	3.68	10.73	3.33
	7	6	13.20	3.92	13.20	4.01	13.20	4.09	12.68	3.91	12.15	3.73	11.10	3.37
	9	7.9	13.20	3.79	13.20	3.87	13.20	3.95	12.68	3.78	12.15	3.61	11.10	3.26

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	11	9.8	13.20	3.66	13.20	3.74	13.20	3.82	12.68	3.65	12.15	3.48	11.10	3.15
	13	11.8	13.20	3.53	13.20	3.60	13.20	3.68	12.68	3.52	12.15	3.36	11.10	3.03
	15	13.7	13.20	3.40	13.20	3.47	13.20	3.54	12.68	3.39	12.15	3.23	11.10	2.92
100%	-14.7	-15	7.62	2.96	7.62	3.02	7.62	3.08	7.32	2.95	7.01	2.81	6.41	2.54
	-12.6	-13	8.04	3.01	8.04	3.07	8.04	3.13	7.72	3.00	7.40	2.86	6.77	2.59
	-10.5	-11	8.47	3.06	8.47	3.12	8.47	3.19	8.13	3.05	7.79	2.91	7.12	2.63
	-9.5	-10	8.67	3.08	8.67	3.14	8.67	3.21	8.32	3.07	7.98	2.93	7.29	2.65
	-8.5	-9.1	8.87	3.10	8.87	3.17	8.87	3.23	8.52	3.09	8.17	2.95	7.46	2.67
	-7	-7.6	9.17	3.14	9.17	3.20	9.17	3.27	8.81	3.13	8.45	2.98	7.72	2.70
	-5	-5.6	9.58	3.18	9.58	3.25	9.58	3.32	9.20	3.17	8.82	3.03	8.06	2.74
	-3	-3.7	9.98	3.23	9.98	3.30	9.98	3.37	9.59	3.22	9.19	3.07	8.40	2.78
	0	-0.7	10.59	3.30	10.59	3.37	10.59	3.44	10.17	3.29	9.75	3.14	8.91	2.84
	3	2.2	11.19	3.37	11.19	3.44	11.19	3.51	10.75	3.36	10.30	3.21	9.42	2.90
	5	4.1	11.60	3.42	11.60	3.49	11.60	3.56	11.14	3.41	10.68	3.25	9.76	2.94
	7	6	12.00	3.46	12.00	3.54	12.00	3.61	11.52	3.45	11.05	3.29	10.10	2.98
	9	7.9	12.00	3.35	12.00	3.42	12.00	3.49	11.52	3.34	11.05	3.18	10.10	2.88
	11	9.8	12.00	3.23	12.00	3.30	12.00	3.37	11.52	3.22	11.05	3.07	10.10	2.78
	13	11.8	12.00	3.11	12.00	3.18	12.00	3.25	11.52	3.10	11.05	2.96	10.10	2.68
	15	13.7	12.00	3.00	12.00	3.06	12.00	3.13	11.52	2.99	11.05	2.85	10.10	2.58
90%	-14.7	-15	6.86	2.62	6.86	2.68	6.86	2.73	6.59	2.61	6.31	2.49	5.77	2.25
	-12.6	-13	7.24	2.67	7.24	2.72	7.24	2.78	6.95	2.66	6.66	2.54	6.09	2.29
	-10.5	-11	7.62	2.71	7.62	2.77	7.62	2.82	7.32	2.70	7.02	2.58	6.41	2.33
	-9.5	-10	7.80	2.73	7.80	2.79	7.80	2.85	7.49	2.72	7.18	2.60	6.56	2.35
	-8.5	-9.1	7.98	2.75	7.98	2.81	7.98	2.87	7.67	2.74	7.35	2.62	6.72	2.36
	-7	-7.6	8.26	2.78	8.26	2.84	8.26	2.90	7.93	2.77	7.60	2.65	6.95	2.39
	-5	-5.6	8.62	2.82	8.62	2.88	8.62	2.94	8.28	2.81	7.94	2.68	7.25	2.43
	-3	-3.7	8.98	2.86	8.98	2.92	8.98	2.99	8.63	2.85	8.27	2.72	7.56	2.46
	0	-0.7	9.53	2.93	9.53	2.99	9.53	3.05	9.15	2.92	8.77	2.78	8.02	2.52
	3	2.2	10.07	2.99	10.07	3.05	10.07	3.11	9.67	2.98	9.27	2.84	8.47	2.57
	5	4.1	10.44	3.03	10.44	3.09	10.44	3.16	10.02	3.02	9.61	2.88	8.78	2.60
	7	6	10.80	3.07	10.80	3.14	10.80	3.20	10.37	3.06	9.94	2.92	9.09	2.64
	9	7.9	10.80	2.97	10.80	3.03	10.80	3.09	10.37	2.96	9.94	2.82	9.09	2.55
	11	9.8	10.80	2.86	10.80	2.92	10.80	2.99	10.37	2.86	9.94	2.72	9.09	2.46
	13	11.8	10.80	2.76	10.80	2.82	10.80	2.88	10.37	2.75	9.94	2.63	9.09	2.37
	15	13.7	10.80	2.66	10.80	2.71	10.80	2.77	10.37	2.65	9.94	2.53	9.09	2.29
80%	-14.7	-15	6.10	2.30	6.10	2.35	6.10	2.40	5.85	2.30	5.61	2.19	5.13	1.98
	-12.6	-13	6.43	2.34	6.43	2.39	6.43	2.44	6.18	2.33	5.92	2.23	5.41	2.01
	-10.5	-11	6.77	2.38	6.77	2.43	6.77	2.48	6.50	2.37	6.24	2.26	5.70	2.05
	-9.5	-10	6.94	2.40	6.94	2.45	6.94	2.50	6.66	2.39	6.38	2.28	5.83	2.06
	-8.5	-9.1	7.10	2.41	7.10	2.47	7.10	2.52	6.82	2.41	6.53	2.30	5.97	2.08
	-7	-7.6	7.34	2.44	7.34	2.49	7.34	2.55	7.05	2.43	6.76	2.32	6.17	2.10
	-5	-5.6	7.66	2.48	7.66	2.53	7.66	2.58	7.36	2.47	7.05	2.36	6.45	2.13
	-3	-3.7	7.98	2.51	7.98	2.57	7.98	2.62	7.67	2.51	7.35	2.39	6.72	2.16
	0	-0.7	8.47	2.57	8.47	2.62	8.47	2.68	8.13	2.56	7.80	2.44	7.13	2.21
	3	2.2	8.95	2.62	8.95	2.68	8.95	2.74	8.60	2.62	8.24	2.50	7.53	2.26
	5	4.1	9.28	2.66	9.28	2.72	9.28	2.77	8.91	2.65	8.54	2.53	7.80	2.29

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	7	6	9.60	2.70	9.60	2.75	9.60	2.81	9.22	2.69	8.84	2.56	8.08	2.32
	9	7.9	9.60	2.61	9.60	2.66	9.60	2.72	9.22	2.60	8.84	2.48	8.08	2.24
	11	9.8	9.60	2.51	9.60	2.57	9.60	2.62	9.22	2.51	8.84	2.39	8.08	2.16
	13	11.8	9.60	2.42	9.60	2.48	9.60	2.53	9.22	2.42	8.84	2.31	8.08	2.08
	15	13.7	9.60	2.33	9.60	2.38	9.60	2.43	9.22	2.33	8.84	2.22	8.08	2.01
70%	-14.7	-15	5.33	1.98	5.33	2.03	5.33	2.07	5.12	1.98	4.91	1.89	4.49	1.71
	-12.6	-13	5.63	2.02	5.63	2.06	5.63	2.10	5.41	2.01	5.18	1.92	4.74	1.73
	-10.5	-11	5.93	2.05	5.93	2.09	5.93	2.14	5.69	2.04	5.46	1.95	4.99	1.76
	-9.5	-10	6.07	2.06	6.07	2.11	6.07	2.15	5.83	2.06	5.59	1.96	5.11	1.77
	-8.5	-9.1	6.21	2.08	6.21	2.12	6.21	2.17	5.96	2.07	5.72	1.98	5.22	1.79
	-7	-7.6	6.42	2.10	6.42	2.15	6.42	2.19	6.17	2.10	5.91	2.00	5.40	1.81
	-5	-5.6	6.70	2.13	6.70	2.18	6.70	2.23	6.44	2.13	6.17	2.03	5.64	1.84
	-3	-3.7	6.99	2.17	6.99	2.21	6.99	2.26	6.71	2.16	6.43	2.06	5.88	1.86
	0	-0.7	7.41	2.21	7.41	2.26	7.41	2.31	7.12	2.21	6.82	2.10	6.23	1.90
	3	2.2	7.83	2.26	7.83	2.31	7.83	2.36	7.52	2.25	7.21	2.15	6.59	1.94
	5	4.1	8.12	2.29	8.12	2.34	8.12	2.39	7.80	2.28	7.47	2.18	6.83	1.97
	7	6	8.40	2.32	8.40	2.37	8.40	2.42	8.07	2.31	7.73	2.21	7.07	2.00
	9	7.9	8.40	2.24	8.40	2.29	8.40	2.34	8.07	2.24	7.73	2.13	7.07	1.93
	11	9.8	8.40	2.17	8.40	2.21	8.40	2.26	8.07	2.16	7.73	2.06	7.07	1.86
	13	11.8	8.40	2.09	8.40	2.13	8.40	2.18	8.07	2.08	7.73	1.99	7.07	1.80
	15	13.7	8.40	2.01	8.40	2.05	8.40	2.10	8.07	2.00	7.73	1.91	7.07	1.73
60%	-14.7	-15	4.57	1.66	4.57	1.70	4.57	1.73	4.39	1.66	4.21	1.58	3.85	1.43
	-12.6	-13	4.83	1.69	4.83	1.73	4.83	1.76	4.63	1.69	4.44	1.61	4.06	1.45
	-10.5	-11	5.08	1.72	5.08	1.75	5.08	1.79	4.88	1.71	4.68	1.63	4.27	1.48
	-9.5	-10	5.20	1.73	5.20	1.77	5.20	1.81	4.99	1.73	4.79	1.65	4.38	1.49
	-8.5	-9.1	5.32	1.74	5.32	1.78	5.32	1.82	5.11	1.74	4.90	1.66	4.48	1.50
	-7	-7.6	5.50	1.76	5.50	1.80	5.50	1.84	5.29	1.76	5.07	1.68	4.63	1.52
	-5	-5.6	5.75	1.79	5.75	1.83	5.75	1.87	5.52	1.78	5.29	1.70	4.83	1.54
	-3	-3.7	5.99	1.82	5.99	1.86	5.99	1.89	5.75	1.81	5.51	1.73	5.04	1.56
	0	-0.7	6.35	1.86	6.35	1.90	6.35	1.93	6.10	1.85	5.85	1.77	5.34	1.60
	3	2.2	6.72	1.89	6.72	1.94	6.72	1.98	6.45	1.89	6.18	1.80	5.65	1.63
	5	4.1	6.96	1.92	6.96	1.96	6.96	2.00	6.68	1.92	6.41	1.83	5.85	1.65
	7	6	7.20	1.95	7.20	1.99	7.20	2.03	6.91	1.94	6.63	1.85	6.06	1.67
	9	7.9	7.20	1.88	7.20	1.92	7.20	1.96	6.91	1.88	6.63	1.79	6.06	1.62
	11	9.8	7.20	1.82	7.20	1.86	7.20	1.89	6.91	1.81	6.63	1.73	6.06	1.56
	13	11.8	7.20	1.75	7.20	1.79	7.20	1.83	6.91	1.75	6.63	1.67	6.06	1.51
	15	13.7	7.20	1.69	7.20	1.72	7.20	1.76	6.91	1.68	6.63	1.60	6.06	1.45
50%	-14.7	-15	3.81	1.34	3.81	1.37	3.81	1.40	3.66	1.34	3.51	1.28	3.20	1.16
	-12.6	-13	4.02	1.37	4.02	1.39	4.02	1.42	3.86	1.36	3.70	1.30	3.38	1.17
	-10.5	-11	4.23	1.39	4.23	1.42	4.23	1.45	4.07	1.38	3.90	1.32	3.56	1.19
	-9.5	-10	4.33	1.40	4.33	1.43	4.33	1.46	4.16	1.39	3.99	1.33	3.65	1.20
	-8.5	-9.1	4.44	1.41	4.44	1.44	4.44	1.47	4.26	1.40	4.08	1.34	3.73	1.21
	-7	-7.6	4.59	1.42	4.59	1.46	4.59	1.49	4.40	1.42	4.22	1.36	3.86	1.23
	-5	-5.6	4.79	1.45	4.79	1.48	4.79	1.51	4.60	1.44	4.41	1.38	4.03	1.24
	-3	-3.7	4.99	1.47	4.99	1.50	4.99	1.53	4.79	1.46	4.59	1.40	4.20	1.26
	0	-0.7	5.29	1.50	5.29	1.53	5.29	1.56	5.08	1.49	4.87	1.43	4.45	1.29

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	3	2.2	5.60	1.53	5.60	1.56	5.60	1.60	5.37	1.53	5.15	1.46	4.71	1.32
	5	4.1	5.80	1.55	5.80	1.58	5.80	1.62	5.57	1.55	5.34	1.48	4.88	1.33
	7	6	6.00	1.57	6.00	1.61	6.00	1.64	5.76	1.57	5.52	1.50	5.05	1.35
	9	7.9	6.00	1.52	6.00	1.55	6.00	1.58	5.76	1.52	5.52	1.45	5.05	1.31
	11	9.8	6.00	1.47	6.00	1.50	6.00	1.53	5.76	1.46	5.52	1.40	5.05	1.26
	13	11.8	6.00	1.41	6.00	1.44	6.00	1.47	5.76	1.41	5.52	1.35	5.05	1.22
	15	13.7	6.00	1.36	6.00	1.39	6.00	1.42	5.76	1.36	5.52	1.30	5.05	1.17

MDV-V140W/SN1
Cooling

Combination (Capacity index)	Outdoor temperature (°C DB)	Indoor temperature(°C WB)													
		14.00		16.00		18.00		19.00		20.00		22.00		24.00	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	10.00	10.63	1.49	12.55	1.85	14.47	2.22	15.35	2.41	16.23	2.59	16.59	2.60	16.94	2.63
	12.00	10.63	1.51	12.55	1.89	14.47	2.26	15.35	2.45	16.23	2.64	16.59	2.65	16.94	2.68
	14.00	10.63	1.54	12.55	1.92	14.47	2.30	15.35	2.50	16.23	2.69	16.59	2.70	16.94	2.73
	16.00	10.63	1.57	12.55	1.96	14.47	2.34	15.35	2.54	16.23	2.74	16.59	2.75	16.94	2.77
	18.00	10.63	1.60	12.55	1.99	14.47	2.38	15.35	2.59	16.23	2.79	16.59	2.80	16.94	2.82
	19.00	10.63	1.63	12.55	2.02	14.47	2.42	15.35	2.63	16.23	2.83	16.59	2.84	16.94	2.87
	21.00	10.63	1.74	12.55	2.17	14.47	2.60	15.35	2.82	16.23	3.04	16.59	3.05	16.94	3.08
	23.00	10.63	1.87	12.55	2.33	14.47	2.78	15.35	3.02	16.23	3.26	16.59	3.27	16.94	3.30
	25.00	10.63	1.40	12.55	2.49	14.47	2.98	15.35	3.23	16.23	3.48	16.59	3.49	16.94	3.53
	27.00	10.63	2.13	12.55	2.66	14.47	3.18	15.35	3.45	16.23	3.72	16.59	3.73	16.94	3.77
	29.00	10.63	2.28	12.55	2.84	14.47	3.40	15.35	3.69	16.23	3.98	16.59	3.99	16.94	4.03
	31.00	10.63	2.43	12.55	3.03	14.47	3.63	15.35	3.93	16.23	4.24	16.59	4.25	16.94	4.29
	33.00	10.63	2.59	12.55	3.23	14.47	3.86	15.35	4.19	16.23	4.52	16.59	4.53	16.94	4.57
	35.00	10.63	2.75	12.55	3.43	14.47	4.11	15.35	4.46	16.23	4.80	16.59	4.82	16.94	4.87
	37.00	10.63	2.93	12.55	3.65	14.47	4.37	15.35	4.74	16.23	5.11	16.59	5.13	16.94	5.18
	39.00	10.63	2.94	12.55	3.67	14.47	4.39	15.35	4.76	16.23	5.13	16.59	5.15	16.94	5.20
	41.00	10.63	2.96	12.55	3.68	14.47	4.41	15.35	4.78	16.23	5.16	16.59	5.17	16.94	5.22
	43.00	10.63	2.97	12.55	3.70	14.47	4.43	15.35	4.80	16.23	5.18	16.59	5.20	16.94	5.25
120%	10.00	10.46	1.47	12.34	1.84	14.23	2.20	15.10	2.38	15.97	2.57	16.32	2.58	16.66	2.60
	12.00	10.46	1.50	12.34	1.87	14.23	2.24	15.10	2.43	15.97	2.62	16.32	2.63	16.66	2.65
	14.00	10.46	1.53	12.34	1.90	14.23	2.28	15.10	2.47	15.97	2.66	16.32	2.67	16.66	2.70
	16.00	10.46	1.55	12.34	1.94	14.23	2.32	15.10	2.52	15.97	2.71	16.32	2.72	16.66	2.75
	18.00	10.46	1.58	12.34	1.97	14.23	2.36	15.10	2.56	15.97	2.76	16.32	2.77	16.66	2.80
	19.00	10.46	1.61	12.34	2.01	14.23	2.40	15.10	2.60	15.97	2.81	16.32	2.82	16.66	2.84
	21.00	10.46	1.73	12.34	2.15	14.23	2.57	15.10	2.79	15.97	3.01	16.32	3.02	16.66	3.05
	23.00	10.46	1.85	12.34	2.30	14.23	2.76	15.10	2.99	15.97	3.22	16.32	3.23	16.66	3.27
	25.00	10.46	1.98	12.34	2.46	14.23	2.95	15.10	3.20	15.97	3.45	16.32	3.46	16.66	3.49
	27.00	10.46	2.11	12.34	2.63	14.23	3.15	15.10	3.42	15.97	3.69	16.32	3.70	16.66	3.74
	29.00	10.46	2.26	12.34	2.81	14.23	3.37	15.10	3.65	15.97	3.94	16.32	3.95	16.66	3.99
	31.00	10.46	2.41	12.34	3.00	14.23	3.59	15.10	3.90	15.97	4.20	16.32	4.21	16.66	4.25
	33.00	10.46	2.56	12.34	3.19	14.23	3.83	15.10	4.15	15.97	4.47	16.32	4.49	16.66	4.53
	35.00	10.46	2.73	12.34	3.40	14.23	4.07	15.10	4.41	15.97	4.76	16.32	4.77	16.66	4.82
	37.00	10.46	2.90	12.34	3.62	14.23	4.33	15.10	4.69	15.97	5.06	16.32	5.08	16.66	5.13
	39.00	10.46	2.91	12.34	3.63	14.23	4.35	15.10	4.72	15.97	5.08	16.32	5.10	16.66	5.15
	41.00	10.46	2.93	12.34	3.65	14.23	4.37	15.10	4.74	15.97	5.11	16.32	5.12	16.66	5.17
	43.00	10.46	2.94	12.34	3.66	14.23	4.39	15.10	4.76	15.97	5.13	16.32	5.15	16.66	5.20
110%	10.00	10.29	0.74	12.14	0.93	14.00	1.11	14.85	1.21	15.71	1.30	16.05	1.30	16.39	1.32
	12.00	10.29	0.76	12.14	0.95	14.00	1.13	14.85	1.23	15.71	1.32	16.05	1.33	16.39	1.34
	14.00	10.29	0.77	12.14	0.96	14.00	1.15	14.85	1.25	15.71	1.35	16.05	1.35	16.39	1.36
	16.00	10.29	0.79	12.14	0.98	14.00	1.17	14.85	1.27	15.71	1.37	16.05	1.38	16.39	1.39
	18.00	10.29	0.80	12.14	1.00	14.00	1.19	14.85	1.29	15.71	1.40	16.05	1.40	16.39	1.41
	19.00	10.29	0.81	12.14	1.01	14.00	1.21	14.85	1.32	15.71	1.42	16.05	1.42	16.39	1.44
	21.00	10.29	0.87	12.14	1.09	14.00	1.30	14.85	1.41	15.71	1.52	16.05	1.53	16.39	1.54
	23.00	10.29	0.93	12.14	1.16	14.00	1.39	14.85	1.51	15.71	1.63	16.05	1.63	16.39	1.65
	25.00	10.29	1.00	12.14	1.25	14.00	1.49	14.85	1.62	15.71	1.74	16.05	1.75	16.39	1.77
	27.00	10.29	1.07	12.14	1.33	14.00	1.59	14.85	1.73	15.71	1.86	16.05	1.87	16.39	1.89
	29.00	10.29	1.14	12.14	1.42	14.00	1.70	14.85	1.85	15.71	1.99	16.05	2.00	16.39	2.02
	31.00	10.29	1.22	12.14	1.52	14.00	1.82	14.85	1.97	15.71	2.12	16.05	2.13	16.39	2.15
	33.00	10.29	1.30	12.14	1.62	14.00	1.93	14.85	2.10	15.71	2.26	16.05	2.27	16.39	2.29
	35.00	10.29	1.38	12.14	1.72	14.00	2.06	14.85	2.23	15.71	2.41	16.05	2.41	16.39	2.44
	37.00	10.29	1.47	12.14	1.83	14.00	2.19	14.85	2.37	15.71	2.56	16.05	2.57	16.39	2.59
	39.00	10.29	1.47	12.14	1.84	14.00	2.20	14.85	2.38	15.71	2.57	16.05	2.58	16.39	2.60
	41.00	10.29	1.48	12.14	1.84	14.00	2.21	14.85	2.39	15.71	2.58	16.05	2.59	16.39	2.61

Combination (Capacity index)	Outdoor temperature (°C DB)	Indoor temperature(°C WB)													
		14.00		16.00		18.00		19.00		20.00		22.00		24.00	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	43.00	10.29	1.49	12.14	1.85	14.00	2.22	14.85	2.41	15.71	2.59	16.05	2.60	16.39	2.63
100%	10.00	9.70	1.36	11.45	1.70	13.20	2.03	14.00	2.20	14.81	2.38	15.13	2.38	15.45	2.41
	12.00	9.70	1.39	11.45	1.73	13.20	2.07	14.00	2.24	14.81	2.42	15.13	2.43	15.45	2.45
	14.00	9.70	1.41	11.45	1.76	13.20	2.11	14.00	2.28	14.81	2.46	15.13	2.47	15.45	2.49
	16.00	9.70	1.44	11.45	1.79	13.20	2.14	14.00	2.33	14.81	2.51	15.13	2.51	15.45	2.54
	18.00	9.70	1.46	11.45	1.82	13.20	2.18	14.00	2.37	14.81	2.55	15.13	2.56	15.45	2.58
	19.00	9.70	1.49	11.45	1.85	13.20	2.22	14.00	2.41	14.81	2.59	15.13	2.60	15.45	2.63
	21.00	9.70	1.59	11.45	1.99	13.20	2.38	14.00	2.58	14.81	2.78	15.13	2.79	15.45	2.82
	23.00	9.70	1.71	11.45	2.13	13.20	2.55	14.00	2.76	14.81	2.98	15.13	2.99	15.45	3.02
	25.00	9.70	1.83	11.45	2.28	13.20	2.73	14.00	2.96	14.81	3.19	15.13	3.20	15.45	3.23
	27.00	9.70	1.95	11.45	2.43	13.20	2.92	14.00	3.16	14.81	3.41	15.13	3.42	15.45	3.45
	29.00	9.70	2.09	11.45	2.60	13.20	3.11	14.00	3.38	14.81	3.64	15.13	3.65	15.45	3.69
	31.00	9.70	2.23	11.45	2.77	13.20	3.32	14.00	3.60	14.81	3.88	15.13	3.89	15.45	3.93
	33.00	9.70	2.37	11.45	2.95	13.20	3.54	14.00	3.84	14.81	4.13	15.13	4.15	15.45	4.19
	35.00	9.70	2.52	11.45	3.14	13.20	3.76	14.00	4.08	14.81	4.40	15.13	4.41	15.45	4.45
	37.00	9.70	2.68	11.45	3.34	13.20	4.00	14.00	4.34	14.81	4.68	15.13	4.69	15.45	4.74
	39.00	9.70	2.69	11.45	3.36	13.20	4.02	14.00	4.36	14.81	4.70	15.13	4.71	15.45	4.76
	41.00	9.70	2.71	11.45	3.37	13.20	4.04	14.00	4.38	14.81	4.72	15.13	4.73	15.45	4.78
	43.00	9.70	2.72	11.45	3.39	13.20	4.06	14.00	4.40	14.81	4.74	15.13	4.76	15.45	4.80
90%	10.00	8.73	1.18	10.30	1.47	11.88	1.76	12.60	1.90	13.32	2.05	13.61	2.06	13.90	2.08
	12.00	8.73	1.20	10.30	1.49	11.88	1.79	12.60	1.94	13.32	2.09	13.61	2.10	13.90	2.12
	14.00	8.73	1.22	10.30	1.52	11.88	1.82	12.60	1.98	13.32	2.13	13.61	2.14	13.90	2.16
	16.00	8.73	1.24	10.30	1.55	11.88	1.85	12.60	2.01	13.32	2.17	13.61	2.17	13.90	2.20
	18.00	8.73	1.26	10.30	1.58	11.88	1.89	12.60	2.05	13.32	2.21	13.61	2.21	13.90	2.23
	19.00	8.73	1.29	10.30	1.60	11.88	1.92	12.60	2.08	13.32	2.24	13.61	2.25	13.90	2.27
	21.00	8.73	1.38	10.30	1.72	11.88	2.06	12.60	2.23	13.32	2.40	13.61	2.41	13.90	2.44
	23.00	8.73	1.48	10.30	1.84	11.88	2.20	12.60	2.39	13.32	2.58	13.61	2.58	13.90	2.61
	25.00	8.73	1.58	10.30	1.97	11.88	2.36	12.60	2.56	13.32	2.76	13.61	2.77	13.90	2.79
	27.00	8.73	1.69	10.30	2.10	11.88	2.52	12.60	2.73	13.32	2.95	13.61	2.96	13.90	2.98
	29.00	8.73	1.80	10.30	2.25	11.88	2.69	12.60	2.92	13.32	3.15	13.61	3.16	13.90	3.19
	31.00	8.73	1.92	10.30	2.40	11.88	2.87	12.60	3.11	13.32	3.36	13.61	3.37	13.90	3.40
	33.00	8.73	2.05	10.30	2.55	11.88	3.06	12.60	3.32	13.32	3.57	13.61	3.59	13.90	3.62
	35.00	8.73	2.18	10.30	2.72	11.88	3.25	12.60	3.53	13.32	3.80	13.61	3.81	13.90	3.85
	37.00	8.73	2.32	10.30	2.89	11.88	3.46	12.60	3.75	13.32	4.04	13.61	4.06	13.90	4.10
	39.00	8.73	2.33	10.30	2.90	11.88	3.47	12.60	3.77	13.32	4.06	13.61	4.07	13.90	4.11
	41.00	8.73	2.34	10.30	2.91	11.88	3.49	12.60	3.78	13.32	4.08	13.61	4.09	13.90	4.13
	43.00	8.73	2.35	10.30	2.93	11.88	3.51	12.60	3.80	13.32	4.10	13.61	4.11	13.90	4.15
80%	10.00	7.76	1.01	9.16	1.25	10.56	1.50	11.20	1.63	11.84	1.75	12.10	1.76	12.36	1.78
	12.00	7.76	1.02	9.16	1.28	10.56	1.53	11.20	1.66	11.84	1.79	12.10	1.79	12.36	1.81
	14.00	7.76	1.04	9.16	1.30	10.56	1.56	11.20	1.69	11.84	1.82	12.10	1.82	12.36	1.84
	16.00	7.76	1.06	9.16	1.32	10.56	1.58	11.20	1.72	11.84	1.85	12.10	1.86	12.36	1.87
	18.00	7.76	1.08	9.16	1.35	10.56	1.61	11.20	1.75	11.84	1.88	12.10	1.89	12.36	1.91
	19.00	7.76	1.10	9.16	1.37	10.56	1.64	11.20	1.78	11.84	1.92	12.10	1.92	12.36	1.94
	21.00	7.76	1.18	9.16	1.47	10.56	1.76	11.20	1.91	11.84	2.05	12.10	2.06	12.36	2.08
	23.00	7.76	1.26	9.16	1.57	10.56	1.88	11.20	2.04	11.84	2.20	12.10	2.21	12.36	2.23
	25.00	7.76	1.35	9.16	1.68	10.56	2.01	11.20	2.18	11.84	2.35	12.10	2.36	12.36	2.38
	27.00	7.76	1.44	9.16	1.80	10.56	2.15	11.20	2.33	11.84	2.52	12.10	2.52	12.36	2.55
	29.00	7.76	1.54	9.16	1.92	10.56	2.30	11.20	2.49	11.84	2.69	12.10	2.70	12.36	2.72
	31.00	7.76	1.64	9.16	2.05	10.56	2.45	11.20	2.66	11.84	2.87	12.10	2.88	12.36	2.90
	33.00	7.76	1.75	9.16	2.18	10.56	2.61	11.20	2.83	11.84	3.05	12.10	3.06	12.36	3.09
	35.00	7.76	1.86	9.16	2.32	10.56	2.78	11.20	3.01	11.84	3.25	12.10	3.26	12.36	3.29
	37.00	7.76	1.98	9.16	2.47	10.56	2.95	11.20	3.20	11.84	3.45	12.10	3.47	12.36	3.50
	39.00	7.76	1.99	9.16	2.48	10.56	2.97	11.20	3.22	11.84	3.47	12.10	3.48	12.36	3.51
	41.00	7.76	2.00	9.16	2.49	10.56	2.98	11.20	3.23	11.84	3.48	12.10	3.50	12.36	3.53
	43.00	7.76	2.01	9.16	2.50	10.56	2.99	11.20	3.25	11.84	3.50	12.10	3.51	12.36	3.55

Combination (Capacity index)	Outdoor temperature (°C DB)	Indoor temperature(°C WB)													
		14.00		16.00		18.00		19.00		20.00		22.00		24.00	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
70%	10.00	6.79	0.85	8.01	1.05	9.24	1.26	9.80	1.37	10.36	1.48	10.59	1.48	10.81	1.50
	12.00	6.79	0.86	8.01	1.07	9.24	1.29	9.80	1.40	10.36	1.50	10.59	1.51	10.81	1.52
	14.00	6.79	0.88	8.01	1.09	9.24	1.31	9.80	1.42	10.36	1.53	10.59	1.54	10.81	1.55
	16.00	6.79	0.89	8.01	1.11	9.24	1.33	9.80	1.45	10.36	1.56	10.59	1.56	10.81	1.58
	18.00	6.79	0.91	8.01	1.13	9.24	1.36	9.80	1.47	10.36	1.59	10.59	1.59	10.81	1.61
	19.00	6.79	0.93	8.01	1.15	9.24	1.38	9.80	1.50	10.36	1.61	10.59	1.62	10.81	1.63
	21.00	6.79	0.99	8.01	1.24	9.24	1.48	9.80	1.60	10.36	1.73	10.59	1.74	10.81	1.75
	23.00	6.79	1.06	8.01	1.32	9.24	1.58	9.80	1.72	10.36	1.85	10.59	1.86	10.81	1.88
	25.00	6.79	1.14	8.01	1.42	9.24	1.70	9.80	1.84	10.36	1.98	10.59	1.99	10.81	2.01
	27.00	6.79	1.22	8.01	1.51	9.24	1.81	9.80	1.97	10.36	2.12	10.59	2.13	10.81	2.15
	29.00	6.79	1.30	8.01	1.62	9.24	1.94	9.80	2.10	10.36	2.26	10.59	2.27	10.81	2.29
	31.00	6.79	1.38	8.01	1.72	9.24	2.06	9.80	2.24	10.36	2.41	10.59	2.42	10.81	2.44
	33.00	6.79	1.47	8.01	1.84	9.24	2.20	9.80	2.38	10.36	2.57	10.59	2.58	10.81	2.60
	35.00	6.79	1.57	8.01	1.95	9.24	2.34	9.80	2.54	10.36	2.74	10.59	2.74	10.81	2.77
	37.00	6.79	1.67	8.01	2.08	9.24	2.49	9.80	2.70	10.36	2.91	10.59	2.92	10.81	2.95
	39.00	6.79	1.67	8.01	2.09	9.24	2.50	9.80	2.71	10.36	2.92	10.59	2.93	10.81	2.96
	41.00	6.79	1.68	8.01	2.10	9.24	2.51	9.80	2.72	10.36	2.93	10.59	2.94	10.81	2.97
	43.00	6.79	1.69	8.01	2.11	9.24	2.52	9.80	2.74	10.36	2.95	10.59	2.96	10.81	2.99
60%	10.00	5.82	0.70	6.87	0.87	7.92	1.05	8.40	1.13	8.88	1.22	9.08	1.23	9.27	1.24
	12.00	5.82	0.71	6.87	0.89	7.92	1.06	8.40	1.15	8.88	1.25	9.08	1.25	9.27	1.26
	14.00	5.82	0.73	6.87	0.91	7.92	1.08	8.40	1.18	8.88	1.27	9.08	1.27	9.27	1.28
	16.00	5.82	0.74	6.87	0.92	7.92	1.10	8.40	1.20	8.88	1.29	9.08	1.29	9.27	1.31
	18.00	5.82	0.75	6.87	0.94	7.92	1.12	8.40	1.22	8.88	1.31	9.08	1.32	9.27	1.33
	19.00	5.82	0.77	6.87	0.95	7.92	1.14	8.40	1.24	8.88	1.34	9.08	1.34	9.27	1.35
	21.00	5.82	0.82	6.87	1.02	7.92	1.22	8.40	1.33	8.88	1.43	9.08	1.44	9.27	1.45
	23.00	5.82	0.88	6.87	1.10	7.92	1.31	8.40	1.42	8.88	1.53	9.08	1.54	9.27	1.55
	25.00	5.82	0.94	6.87	1.17	7.92	1.40	8.40	1.52	8.88	1.64	9.08	1.65	9.27	1.66
	27.00	5.82	1.01	6.87	1.25	7.92	1.50	8.40	1.63	8.88	1.75	9.08	1.76	9.27	1.78
	29.00	5.82	1.07	6.87	1.34	7.92	1.60	8.40	1.74	8.88	1.87	9.08	1.88	9.27	1.90
	31.00	5.82	1.15	6.87	1.43	7.92	1.71	8.40	1.85	8.88	2.00	9.08	2.00	9.27	2.02
	33.00	5.82	1.22	6.87	1.52	7.92	1.82	8.40	1.97	8.88	2.13	9.08	2.13	9.27	2.16
	35.00	5.82	1.30	6.87	1.62	7.92	1.94	8.40	2.10	8.88	2.26	9.08	2.27	9.27	2.29
	37.00	5.82	1.38	6.87	1.72	7.92	2.06	8.40	2.23	8.88	2.41	9.08	2.42	9.27	2.44
	39.00	5.82	1.39	6.87	1.73	7.92	2.07	8.40	2.24	8.88	2.42	9.08	2.43	9.27	2.45
	41.00	5.82	1.39	6.87	1.74	7.92	2.08	8.40	2.25	8.88	2.43	9.08	2.44	9.27	2.46
	43.00	5.82	1.40	6.87	1.74	7.92	2.09	8.40	2.26	8.88	2.44	9.08	2.45	9.27	2.47
50%	10.00	4.85	0.57	5.72	0.71	6.60	0.85	7.00	0.92	7.40	0.99	7.56	0.99	7.72	1.00
	12.00	4.85	0.58	5.72	0.72	6.60	0.86	7.00	0.94	7.40	1.01	7.56	1.01	7.72	1.02
	14.00	4.85	0.59	5.72	0.73	6.60	0.88	7.00	0.95	7.40	1.03	7.56	1.03	7.72	1.04
	16.00	4.85	0.60	5.72	0.75	6.60	0.89	7.00	0.97	7.40	1.05	7.56	1.05	7.72	1.06
	18.00	4.85	0.61	5.72	0.76	6.60	0.91	7.00	0.99	7.40	1.06	7.56	1.07	7.72	1.08
	19.00	4.85	0.62	5.72	0.77	6.60	0.93	7.00	1.00	7.40	1.08	7.56	1.09	7.72	1.10
	21.00	4.85	0.67	5.72	0.83	6.60	0.99	7.00	1.08	7.40	1.16	7.56	1.16	7.72	1.17
	23.00	4.85	0.71	5.72	0.89	6.60	1.06	7.00	1.15	7.40	1.24	7.56	1.25	7.72	1.26
	25.00	4.85	0.76	5.72	0.95	6.60	1.14	7.00	1.23	7.40	1.33	7.56	1.33	7.72	1.35
	27.00	4.85	0.81	5.72	1.02	6.60	1.22	7.00	1.32	7.40	1.42	7.56	1.43	7.72	1.44
	29.00	4.85	0.87	5.72	1.08	6.60	1.30	7.00	1.41	7.40	1.52	7.56	1.52	7.72	1.54
	31.00	4.85	0.93	5.72	1.16	6.60	1.38	7.00	1.50	7.40	1.62	7.56	1.62	7.72	1.64
	33.00	4.85	0.99	5.72	1.23	6.60	1.47	7.00	1.60	7.40	1.72	7.56	1.73	7.72	1.75
	35.00	4.85	1.05	5.72	1.31	6.60	1.57	7.00	1.70	7.40	1.83	7.56	1.84	7.72	1.86
	37.00	4.85	1.12	5.72	1.39	6.60	1.67	7.00	1.81	7.40	1.95	7.56	1.96	7.72	1.98
	39.00	4.85	1.12	5.72	1.40	6.60	1.68	7.00	1.82	7.40	1.96	7.56	1.97	7.72	1.98
	41.00	4.85	1.13	5.72	1.41	6.60	1.68	7.00	1.83	7.40	1.97	7.56	1.97	7.72	1.99
	43.00	4.85	1.13	5.72	1.41	6.60	1.69	7.00	1.83	7.40	1.98	7.56	1.98	7.72	2.00

Heating

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-14.7	-15	10.83	3.61	10.83	3.69	10.83	3.77	10.40	3.60	9.97	3.44	9.11	3.11
	-12.6	-13	11.43	3.67	11.43	3.75	11.43	3.83	10.97	3.66	10.52	3.49	9.61	3.16
	-10.5	-11	12.03	3.73	12.03	3.81	12.03	3.89	11.55	3.72	11.08	3.55	10.12	3.21
	-9.5	-10	12.32	3.76	12.32	3.84	12.32	3.92	11.83	3.75	11.34	3.58	10.36	3.23
	-8.5	-9.1	12.60	3.79	12.60	3.87	12.60	3.95	12.10	3.78	11.60	3.60	10.60	3.26
	-7	-7.6	13.03	3.83	13.03	3.91	13.03	3.99	12.52	3.82	12.00	3.64	10.97	3.29
	-5	-5.6	13.61	3.89	13.61	3.97	13.61	4.05	13.07	3.88	12.53	3.70	11.45	3.34
	-3	-3.7	14.18	3.95	14.18	4.03	14.18	4.11	13.62	3.93	13.06	3.75	11.93	3.39
	0	-0.7	15.04	4.03	15.04	4.12	15.04	4.20	14.45	4.02	13.85	3.83	12.65	3.47
	3	2.2	15.90	4.12	15.90	4.20	15.90	4.29	15.27	4.10	14.64	3.92	13.38	3.54
	5	4.1	16.48	4.17	16.48	4.26	16.48	4.35	15.82	4.16	15.17	3.97	13.86	3.59
	7	6	17.05	4.23	17.05	4.32	17.05	4.41	16.37	4.22	15.70	4.02	14.34	3.64
	9	7.9	17.05	4.09	17.05	4.17	17.05	4.26	16.37	4.08	15.70	3.89	14.34	3.51
	11	9.8	17.05	3.95	17.05	4.03	17.05	4.11	16.37	3.93	15.70	3.75	14.34	3.39
	13	11.8	17.05	3.80	17.05	3.88	17.05	3.97	16.37	3.79	15.70	3.62	14.34	3.27
	15	13.7	17.05	3.66	17.05	3.74	17.05	3.82	16.37	3.65	15.70	3.48	14.34	3.15
120%	-14.7	-15	10.83	3.72	10.83	3.80	10.83	3.88	10.40	3.71	9.97	3.54	9.11	3.20
	-12.6	-13	11.43	3.78	11.43	3.86	11.43	3.94	10.97	3.77	10.52	3.60	9.61	3.25
	-10.5	-11	12.03	3.84	12.03	3.92	12.03	4.01	11.55	3.83	11.08	3.65	10.12	3.30
	-9.5	-10	12.32	3.87	12.32	3.95	12.32	4.04	11.83	3.86	11.34	3.68	10.36	3.33
	-8.5	-9.1	12.60	3.90	12.60	3.98	12.60	4.07	12.10	3.89	11.60	3.71	10.60	3.35
	-7	-7.6	13.03	3.94	13.03	4.03	13.03	4.11	12.52	3.93	12.00	3.75	10.97	3.39
	-5	-5.6	13.61	4.00	13.61	4.09	13.61	4.17	13.07	3.99	12.53	3.81	11.45	3.44
	-3	-3.7	14.18	4.06	14.18	4.15	14.18	4.23	13.62	4.05	13.06	3.86	11.93	3.49
	0	-0.7	15.04	4.15	15.04	4.24	15.04	4.33	14.45	4.14	13.85	3.95	12.65	3.57
	3	2.2	15.90	4.24	15.90	4.33	15.90	4.42	15.27	4.22	14.64	4.03	13.38	3.64
	5	4.1	16.48	4.30	16.48	4.39	16.48	4.48	15.82	4.28	15.17	4.09	13.86	3.69
	7	6	17.05	4.35	17.05	4.45	17.05	4.54	16.37	4.34	15.70	4.14	14.34	3.74
	9	7.9	17.05	4.21	17.05	4.30	17.05	4.39	16.37	4.19	15.70	4.00	14.34	3.62
	11	9.8	17.05	4.06	17.05	4.15	17.05	4.23	16.37	4.05	15.70	3.86	14.34	3.49
	13	11.8	17.05	3.92	17.05	4.00	17.05	4.08	16.37	3.90	15.70	3.72	14.34	3.37
	15	13.7	17.05	3.77	17.05	3.85	17.05	3.93	16.37	3.76	15.70	3.59	14.34	3.24
110%	-14.7	-15	10.83	3.83	10.83	3.91	10.83	3.99	10.40	3.81	9.97	3.64	9.11	3.29
	-12.6	-13	11.43	3.89	11.43	3.97	11.43	4.05	10.97	3.88	10.52	3.70	9.61	3.34
	-10.5	-11	12.03	3.95	12.03	4.04	12.03	4.12	11.55	3.94	11.08	3.76	10.12	3.40
	-9.5	-10	12.32	3.98	12.32	4.07	12.32	4.15	11.83	3.97	11.34	3.79	10.36	3.42
	-8.5	-9.1	12.60	4.01	12.60	4.10	12.60	4.18	12.10	4.00	11.60	3.82	10.60	3.45
	-7	-7.6	13.03	4.06	13.03	4.14	13.03	4.23	12.52	4.04	12.00	3.86	10.97	3.49
	-5	-5.6	13.61	4.12	13.61	4.20	13.61	4.29	13.07	4.10	12.53	3.92	11.45	3.54
	-3	-3.7	14.18	4.18	14.18	4.27	14.18	4.36	13.62	4.16	13.06	3.97	11.93	3.59
	0	-0.7	15.04	4.27	15.04	4.36	15.04	4.45	14.45	4.25	13.85	4.06	12.65	3.67
	3	2.2	15.90	4.36	15.90	4.45	15.90	4.54	15.27	4.34	14.64	4.15	13.38	3.75
	5	4.1	16.48	4.42	16.48	4.51	16.48	4.61	15.82	4.40	15.17	4.20	13.86	3.80
	7	6	17.05	4.48	17.05	4.57	17.05	4.67	16.37	4.46	15.70	4.26	14.34	3.85
	9	7.9	17.05	4.33	17.05	4.42	17.05	4.51	16.37	4.31	15.70	4.12	14.34	3.72

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	11	9.8	17.05	4.18	17.05	4.27	17.05	4.36	16.37	4.16	15.70	3.97	14.34	3.59
	13	11.8	17.05	4.03	17.05	4.11	17.05	4.20	16.37	4.01	15.70	3.83	14.34	3.46
	15	13.7	17.05	3.88	17.05	3.96	17.05	4.04	16.37	3.86	15.70	3.69	14.34	3.33
100%	-14.7	-15	9.84	3.38	9.84	3.45	9.84	3.52	9.45	3.37	9.06	3.21	8.28	2.90
	-12.6	-13	10.39	3.43	10.39	3.50	10.39	3.58	9.98	3.42	9.56	3.26	8.74	2.95
	-10.5	-11	10.94	3.49	10.94	3.56	10.94	3.64	10.50	3.48	10.07	3.32	9.20	3.00
	-9.5	-10	11.20	3.51	11.20	3.59	11.20	3.66	10.75	3.50	10.31	3.34	9.42	3.02
	-8.5	-9.1	11.46	3.54	11.46	3.62	11.46	3.69	11.00	3.53	10.55	3.37	9.64	3.04
	-7	-7.6	11.85	3.58	11.85	3.66	11.85	3.73	11.38	3.57	10.91	3.41	9.97	3.08
	-5	-5.6	12.37	3.63	12.37	3.71	12.37	3.79	11.88	3.62	11.39	3.46	10.41	3.12
	-3	-3.7	12.89	3.69	12.89	3.76	12.89	3.84	12.38	3.67	11.87	3.51	10.85	3.17
	0	-0.7	13.67	3.77	13.67	3.85	13.67	3.93	13.13	3.75	12.59	3.58	11.50	3.24
	3	2.2	14.46	3.85	14.46	3.93	14.46	4.01	13.88	3.83	13.31	3.66	12.16	3.31
	5	4.1	14.98	3.90	14.98	3.98	14.98	4.06	14.38	3.89	13.79	3.71	12.60	3.35
	7	6	15.50	3.95	15.50	4.04	15.50	4.12	14.88	3.94	14.27	3.76	13.04	3.40
	9	7.9	15.50	3.82	15.50	3.90	15.50	3.98	14.88	3.81	14.27	3.63	13.04	3.28
	11	9.8	15.50	3.69	15.50	3.76	15.50	3.84	14.88	3.67	14.27	3.51	13.04	3.17
	13	11.8	15.50	3.55	15.50	3.63	15.50	3.70	14.88	3.54	14.27	3.38	13.04	3.06
	15	13.7	15.50	3.42	15.50	3.49	15.50	3.57	14.88	3.41	14.27	3.25	13.04	2.94
90%	-14.7	-15	8.86	2.99	8.86	3.06	8.86	3.12	8.51	2.98	8.15	2.85	7.45	2.57
	-12.6	-13	9.35	3.04	9.35	3.11	9.35	3.17	8.98	3.03	8.61	2.89	7.87	2.62
	-10.5	-11	9.84	3.09	9.84	3.16	9.84	3.22	9.45	3.08	9.06	2.94	8.28	2.66
	-9.5	-10	10.08	3.12	10.08	3.18	10.08	3.25	9.68	3.11	9.28	2.96	8.48	2.68
	-8.5	-9.1	10.31	3.14	10.31	3.21	10.31	3.27	9.90	3.13	9.49	2.99	8.68	2.70
	-7	-7.6	10.66	3.17	10.66	3.24	10.66	3.31	10.24	3.16	9.82	3.02	8.97	2.73
	-5	-5.6	11.13	3.22	11.13	3.29	11.13	3.36	10.69	3.21	10.25	3.06	9.37	2.77
	-3	-3.7	11.60	3.27	11.60	3.34	11.60	3.41	11.14	3.26	10.68	3.11	9.76	2.81
	0	-0.7	12.31	3.34	12.31	3.41	12.31	3.48	11.82	3.33	11.33	3.18	10.35	2.87
	3	2.2	13.01	3.41	13.01	3.48	13.01	3.55	12.49	3.40	11.98	3.24	10.95	2.93
	5	4.1	13.48	3.46	13.48	3.53	13.48	3.60	12.95	3.45	12.41	3.29	11.34	2.97
	7	6	13.95	3.50	13.95	3.58	13.95	3.65	13.40	3.49	12.84	3.33	11.74	3.01
	9	7.9	13.95	3.39	13.95	3.46	13.95	3.53	13.40	3.38	12.84	3.22	11.74	2.91
	11	9.8	13.95	3.27	13.95	3.34	13.95	3.41	13.40	3.26	12.84	3.11	11.74	2.81
	13	11.8	13.95	3.15	13.95	3.22	13.95	3.29	13.40	3.14	12.84	3.00	11.74	2.71
	15	13.7	13.95	3.03	13.95	3.10	13.95	3.16	13.40	3.02	12.84	2.89	11.74	2.61
80%	-14.7	-15	7.87	2.63	7.87	2.68	7.87	2.74	7.56	2.62	7.25	2.50	6.62	2.26
	-12.6	-13	8.31	2.67	8.31	2.73	8.31	2.79	7.98	2.66	7.65	2.54	6.99	2.30
	-10.5	-11	8.75	2.71	8.75	2.77	8.75	2.83	8.40	2.71	8.05	2.58	7.36	2.33
	-9.5	-10	8.96	2.74	8.96	2.79	8.96	2.85	8.60	2.73	8.25	2.60	7.54	2.35
	-8.5	-9.1	9.17	2.76	9.17	2.81	9.17	2.87	8.80	2.75	8.44	2.62	7.71	2.37
	-7	-7.6	9.48	2.79	9.48	2.85	9.48	2.91	9.10	2.78	8.73	2.65	7.97	2.40
	-5	-5.6	9.90	2.83	9.90	2.89	9.90	2.95	9.50	2.82	9.11	2.69	8.33	2.43
	-3	-3.7	10.31	2.87	10.31	2.93	10.31	2.99	9.90	2.86	9.50	2.73	8.68	2.47
	0	-0.7	10.94	2.93	10.94	2.99	10.94	3.06	10.51	2.92	10.07	2.79	9.20	2.52
	3	2.2	11.57	2.99	11.57	3.06	11.57	3.12	11.11	2.98	10.65	2.85	9.73	2.57
	5	4.1	11.98	3.04	11.98	3.10	11.98	3.16	11.51	3.03	11.03	2.89	10.08	2.61

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	7	6	12.40	3.08	12.40	3.14	12.40	3.21	11.91	3.07	11.42	2.93	10.43	2.65
	9	7.9	12.40	2.97	12.40	3.04	12.40	3.10	11.91	2.96	11.42	2.83	10.43	2.56
	11	9.8	12.40	2.87	12.40	2.93	12.40	2.99	11.91	2.86	11.42	2.73	10.43	2.47
	13	11.8	12.40	2.77	12.40	2.83	12.40	2.88	11.91	2.76	11.42	2.63	10.43	2.38
	15	13.7	12.40	2.66	12.40	2.72	12.40	2.78	11.91	2.66	11.42	2.53	10.43	2.29
70%	-14.7	-15	6.89	2.26	6.89	2.31	6.89	2.36	6.62	2.26	6.34	2.15	5.80	1.95
	-12.6	-13	7.27	2.30	7.27	2.35	7.27	2.40	6.98	2.29	6.70	2.19	6.12	1.98
	-10.5	-11	7.66	2.34	7.66	2.39	7.66	2.44	7.35	2.33	7.05	2.22	6.44	2.01
	-9.5	-10	7.84	2.36	7.84	2.41	7.84	2.46	7.53	2.35	7.22	2.24	6.59	2.03
	-8.5	-9.1	8.02	2.37	8.02	2.42	8.02	2.47	7.70	2.37	7.38	2.26	6.75	2.04
	-7	-7.6	8.29	2.40	8.29	2.45	8.29	2.50	7.97	2.39	7.64	2.28	6.98	2.06
	-5	-5.6	8.66	2.44	8.66	2.49	8.66	2.54	8.32	2.43	7.97	2.32	7.29	2.09
	-3	-3.7	9.02	2.47	9.02	2.52	9.02	2.58	8.67	2.46	8.31	2.35	7.59	2.13
	0	-0.7	9.57	2.52	9.57	2.58	9.57	2.63	9.19	2.52	8.81	2.40	8.05	2.17
	3	2.2	10.12	2.58	10.12	2.63	10.12	2.69	9.72	2.57	9.32	2.45	8.51	2.22
	5	4.1	10.48	2.61	10.48	2.67	10.48	2.73	10.07	2.61	9.65	2.49	8.82	2.25
	7	6	10.85	2.65	10.85	2.71	10.85	2.76	10.42	2.64	9.99	2.52	9.13	2.28
	9	7.9	10.85	2.56	10.85	2.62	10.85	2.67	10.42	2.55	9.99	2.44	9.13	2.20
	11	9.8	10.85	2.47	10.85	2.52	10.85	2.58	10.42	2.46	9.99	2.35	9.13	2.13
	13	11.8	10.85	2.38	10.85	2.43	10.85	2.48	10.42	2.38	9.99	2.27	9.13	2.05
	15	13.7	10.85	2.29	10.85	2.34	10.85	2.39	10.42	2.29	9.99	2.18	9.13	1.97
60%	-14.7	-15	5.90	1.90	5.90	1.94	5.90	1.98	5.67	1.89	5.44	1.81	4.97	1.63
	-12.6	-13	6.23	1.93	6.23	1.97	6.23	2.01	5.99	1.92	5.74	1.84	5.24	1.66
	-10.5	-11	6.56	1.96	6.56	2.00	6.56	2.04	6.30	1.96	6.04	1.87	5.52	1.69
	-9.5	-10	6.72	1.98	6.72	2.02	6.72	2.06	6.45	1.97	6.19	1.88	5.65	1.70
	-8.5	-9.1	6.87	1.99	6.87	2.03	6.87	2.08	6.60	1.98	6.33	1.89	5.78	1.71
	-7	-7.6	7.11	2.01	7.11	2.06	7.11	2.10	6.83	2.01	6.55	1.92	5.98	1.73
	-5	-5.6	7.42	2.04	7.42	2.09	7.42	2.13	7.13	2.04	6.83	1.94	6.24	1.76
	-3	-3.7	7.74	2.07	7.74	2.12	7.74	2.16	7.43	2.07	7.12	1.97	6.51	1.78
	0	-0.7	8.20	2.12	8.20	2.16	8.20	2.21	7.88	2.11	7.55	2.01	6.90	1.82
	3	2.2	8.67	2.16	8.67	2.21	8.67	2.25	8.33	2.16	7.99	2.06	7.30	1.86
	5	4.1	8.99	2.19	8.99	2.24	8.99	2.29	8.63	2.19	8.27	2.09	7.56	1.89
	7	6	9.30	2.22	9.30	2.27	9.30	2.32	8.93	2.22	8.56	2.11	7.82	1.91
	9	7.9	9.30	2.15	9.30	2.19	9.30	2.24	8.93	2.14	8.56	2.04	7.82	1.85
	11	9.8	9.30	2.07	9.30	2.12	9.30	2.16	8.93	2.07	8.56	1.97	7.82	1.78
	13	11.8	9.30	2.00	9.30	2.04	9.30	2.08	8.93	1.99	8.56	1.90	7.82	1.72
	15	13.7	9.30	1.92	9.30	1.96	9.30	2.01	8.93	1.92	8.56	1.83	7.82	1.65
50%	-14.7	-15	4.92	1.53	4.92	1.57	4.92	1.60	4.73	1.53	4.53	1.46	4.14	1.32
	-12.6	-13	5.19	1.56	5.19	1.59	5.19	1.63	4.99	1.55	4.78	1.48	4.37	1.34
	-10.5	-11	5.47	1.58	5.47	1.62	5.47	1.65	5.25	1.58	5.03	1.51	4.60	1.36
	-9.5	-10	5.60	1.60	5.60	1.63	5.60	1.66	5.38	1.59	5.15	1.52	4.71	1.37
	-8.5	-9.1	5.73	1.61	5.73	1.64	5.73	1.68	5.50	1.60	5.27	1.53	4.82	1.38
	-7	-7.6	5.92	1.63	5.92	1.66	5.92	1.70	5.69	1.62	5.45	1.55	4.98	1.40
	-5	-5.6	6.19	1.65	6.19	1.69	6.19	1.72	5.94	1.65	5.69	1.57	5.20	1.42
	-3	-3.7	6.45	1.67	6.45	1.71	6.45	1.75	6.19	1.67	5.93	1.59	5.42	1.44
	0	-0.7	6.84	1.71	6.84	1.75	6.84	1.78	6.57	1.71	6.29	1.63	5.75	1.47

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	3	2.2	7.23	1.75	7.23	1.78	7.23	1.82	6.94	1.74	6.65	1.66	6.08	1.50
	5	4.1	7.49	1.77	7.49	1.81	7.49	1.85	7.19	1.77	6.89	1.68	6.30	1.52
	7	6	7.75	1.80	7.75	1.83	7.75	1.87	7.44	1.79	7.13	1.71	6.52	1.54
	9	7.9	7.75	1.73	7.75	1.77	7.75	1.81	7.44	1.73	7.13	1.65	6.52	1.49
	11	9.8	7.75	1.67	7.75	1.71	7.75	1.75	7.44	1.67	7.13	1.59	6.52	1.44
	13	11.8	7.75	1.61	7.75	1.65	7.75	1.68	7.44	1.61	7.13	1.54	6.52	1.39
	15	13.7	7.75	1.55	7.75	1.59	7.75	1.62	7.44	1.55	7.13	1.48	6.52	1.34

MDV-V160W/SN1
Cooling

Combination (Capacity index)	Outdoor temperature (°C DB)	Indoor temperature(°C WB)													
		14.00		16.00		18.00		19.00		20.00		22.00		24.00	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	10.00	12.15	1.68	14.34	2.09	16.53	2.50	17.54	2.71	18.55	2.93	18.95	2.93	19.36	2.96
	12.00	12.15	1.71	14.34	2.13	16.53	2.55	17.54	2.76	18.55	2.98	18.95	2.99	19.36	3.02
	14.00	12.15	1.74	14.34	2.17	16.53	2.59	17.54	2.81	18.55	3.03	18.95	3.04	19.36	3.07
	16.00	12.15	1.77	14.34	2.21	16.53	2.64	17.54	2.86	18.55	3.09	18.95	3.10	19.36	3.13
	18.00	12.15	1.80	14.34	2.24	16.53	2.69	17.54	2.91	18.55	3.14	18.95	3.15	19.36	3.18
	19.00	12.15	1.83	14.34	2.28	16.53	2.73	17.54	2.96	18.55	3.20	18.95	3.21	19.36	3.24
	21.00	12.15	1.96	14.34	2.45	16.53	2.93	17.54	3.18	18.55	3.43	18.95	3.44	19.36	3.47
	23.00	12.15	2.10	14.34	2.62	16.53	3.14	17.54	3.40	18.55	3.67	18.95	3.68	19.36	3.72
	25.00	12.15	1.58	14.34	2.81	16.53	3.36	17.54	3.64	18.55	3.93	18.95	3.94	19.36	3.98
	27.00	12.15	2.41	14.34	3.00	16.53	3.59	17.54	3.89	18.55	4.20	18.95	4.21	19.36	4.25
	29.00	12.15	2.57	14.34	3.20	16.53	3.83	17.54	4.16	18.55	4.48	18.95	4.50	19.36	4.54
	31.00	12.15	2.74	14.34	3.41	16.53	4.09	17.54	4.43	18.55	4.78	18.95	4.80	19.36	4.84
	33.00	12.15	2.92	14.34	3.64	16.53	4.36	17.54	4.72	18.55	5.09	18.95	5.11	19.36	5.16
	35.00	12.15	3.11	14.34	3.87	16.53	4.63	17.54	5.03	18.55	5.42	18.95	5.43	19.36	5.49
	37.00	12.15	3.30	14.34	4.12	16.53	4.93	17.54	5.34	18.55	5.76	18.95	5.78	19.36	5.84
	39.00	12.15	3.32	14.34	4.13	16.53	4.95	17.54	5.37	18.55	5.79	18.95	5.80	19.36	5.86
	41.00	12.15	3.33	14.34	4.15	16.53	4.97	17.54	5.39	18.55	5.81	18.95	5.83	19.36	5.89
	43.00	12.15	3.35	14.34	4.17	16.53	4.99	17.54	5.42	18.55	5.84	18.95	5.86	19.36	5.91
120%	10.00	11.95	1.66	14.11	2.07	16.26	2.48	17.26	2.69	18.25	2.90	18.65	2.91	19.04	2.93
	12.00	11.95	1.69	14.11	2.11	16.26	2.52	17.26	2.74	18.25	2.95	18.65	2.96	19.04	2.99
	14.00	11.95	1.72	14.11	2.15	16.26	2.57	17.26	2.79	18.25	3.00	18.65	3.01	19.04	3.04
	16.00	11.95	1.75	14.11	2.18	16.26	2.62	17.26	2.84	18.25	3.06	18.65	3.07	19.04	3.10
	18.00	11.95	1.78	14.11	2.22	16.26	2.66	17.26	2.89	18.25	3.11	18.65	3.12	19.04	3.15
	19.00	11.95	1.81	14.11	2.26	16.26	2.71	17.26	2.94	18.25	3.17	18.65	3.17	19.04	3.21
	21.00	11.95	1.95	14.11	2.42	16.26	2.90	17.26	3.15	18.25	3.39	18.65	3.40	19.04	3.44
	23.00	11.95	2.08	14.11	2.60	16.26	3.11	17.26	3.37	18.25	3.63	18.65	3.65	19.04	3.68
	25.00	11.95	2.23	14.11	2.78	16.26	3.33	17.26	3.61	18.25	3.89	18.65	3.90	19.04	3.94
	27.00	11.95	2.38	14.11	2.97	16.26	3.56	17.26	3.86	18.25	4.16	18.65	4.17	19.04	4.21
	29.00	11.95	2.55	14.11	3.17	16.26	3.80	17.26	4.12	18.25	4.44	18.65	4.45	19.04	4.50
	31.00	11.95	2.71	14.11	3.38	16.26	4.05	17.26	4.39	18.25	4.73	18.65	4.75	19.04	4.80
	33.00	11.95	2.89	14.11	3.60	16.26	4.31	17.26	4.68	18.25	5.04	18.65	5.06	19.04	5.11
	35.00	11.95	3.08	14.11	3.83	16.26	4.59	17.26	4.98	18.25	5.36	18.65	5.38	19.04	5.43
	37.00	11.95	3.27	14.11	4.08	16.26	4.88	17.26	5.29	18.25	5.71	18.65	5.72	19.04	5.78
	39.00	11.95	3.29	14.11	4.09	16.26	4.90	17.26	5.32	18.25	5.73	18.65	5.75	19.04	5.80
	41.00	11.95	3.30	14.11	4.11	16.26	4.92	17.26	5.34	18.25	5.76	18.65	5.77	19.04	5.83
	43.00	11.95	3.32	14.11	4.13	16.26	4.95	17.26	5.36	18.25	5.78	18.65	5.80	19.04	5.86
110%	10.00	11.76	0.84	13.88	1.05	16.00	1.25	16.98	1.36	17.95	1.46	18.34	1.47	18.73	1.48
	12.00	11.76	0.86	13.88	1.07	16.00	1.28	16.98	1.38	17.95	1.49	18.34	1.50	18.73	1.51
	14.00	11.76	0.87	13.88	1.08	16.00	1.30	16.98	1.41	17.95	1.52	18.34	1.52	18.73	1.54
	16.00	11.76	0.89	13.88	1.10	16.00	1.32	16.98	1.43	17.95	1.55	18.34	1.55	18.73	1.57
	18.00	11.76	0.90	13.88	1.12	16.00	1.35	16.98	1.46	17.95	1.57	18.34	1.58	18.73	1.59
	19.00	11.76	0.92	13.88	1.14	16.00	1.37	16.98	1.48	17.95	1.60	18.34	1.61	18.73	1.62
	21.00	11.76	0.98	13.88	1.23	16.00	1.47	16.98	1.59	17.95	1.72	18.34	1.72	18.73	1.74
	23.00	11.76	1.05	13.88	1.31	16.00	1.57	16.98	1.70	17.95	1.84	18.34	1.84	18.73	1.86
	25.00	11.76	1.13	13.88	1.40	16.00	1.68	16.98	1.82	17.95	1.97	18.34	1.97	18.73	1.99

Combination (Capacity index)	Outdoor temperature (°C DB)	Indoor temperature(°C WB)													
		14.00		16.00		18.00		19.00		20.00		22.00		24.00	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	27.00	11.76	1.21	13.88	1.50	16.00	1.80	16.98	1.95	17.95	2.10	18.34	2.11	18.73	2.13
	29.00	11.76	1.29	13.88	1.60	16.00	1.92	16.98	2.08	17.95	2.24	18.34	2.25	18.73	2.27
	31.00	11.76	1.37	13.88	1.71	16.00	2.05	16.98	2.22	17.95	2.39	18.34	2.40	18.73	2.42
	33.00	11.76	1.46	13.88	1.82	16.00	2.18	16.98	2.37	17.95	2.55	18.34	2.56	18.73	2.58
	35.00	11.76	1.56	13.88	1.94	16.00	2.32	16.98	2.52	17.95	2.71	18.34	2.72	18.73	2.75
	37.00	11.76	1.65	13.88	2.06	16.00	2.47	16.98	2.68	17.95	2.88	18.34	2.89	18.73	2.92
	39.00	11.76	1.66	13.88	2.07	16.00	2.48	16.98	2.69	17.95	2.90	18.34	2.91	18.73	2.93
	41.00	11.76	1.67	13.88	2.08	16.00	2.49	16.98	2.70	17.95	2.91	18.34	2.92	18.73	2.95
	43.00	11.76	1.68	13.88	2.09	16.00	2.50	16.98	2.71	17.95	2.92	18.34	2.93	18.73	2.96
100%	10.00	11.08	1.54	13.08	1.91	15.08	2.29	16.00	2.48	16.92	2.68	17.29	2.69	17.66	2.71
	12.00	11.08	1.56	13.08	1.95	15.08	2.33	16.00	2.53	16.92	2.73	17.29	2.74	17.66	2.76
	14.00	11.08	1.59	13.08	1.98	15.08	2.38	16.00	2.58	16.92	2.78	17.29	2.79	17.66	2.81
	16.00	11.08	1.62	13.08	2.02	15.08	2.42	16.00	2.62	16.92	2.83	17.29	2.84	17.66	2.86
	18.00	11.08	1.65	13.08	2.05	15.08	2.46	16.00	2.67	16.92	2.88	17.29	2.88	17.66	2.91
	19.00	11.08	1.68	13.08	2.09	15.08	2.50	16.00	2.71	16.92	2.93	17.29	2.93	17.66	2.96
	21.00	11.08	1.80	13.08	2.24	15.08	2.68	16.00	2.91	16.92	3.14	17.29	3.15	17.66	3.18
	23.00	11.08	1.93	13.08	2.40	15.08	2.87	16.00	3.12	16.92	3.36	17.29	3.37	17.66	3.40
	25.00	11.08	2.06	13.08	2.57	15.08	3.07	16.00	3.34	16.92	3.60	17.29	3.61	17.66	3.64
	27.00	11.08	2.20	13.08	2.75	15.08	3.29	16.00	3.57	16.92	3.84	17.29	3.85	17.66	3.89
	29.00	11.08	2.35	13.08	2.93	15.08	3.51	16.00	3.81	16.92	4.10	17.29	4.12	17.66	4.16
	31.00	11.08	2.51	13.08	3.13	15.08	3.74	16.00	4.06	16.92	4.38	17.29	4.39	17.66	4.43
	33.00	11.08	2.67	13.08	3.33	15.08	3.99	16.00	4.32	16.92	4.66	17.29	4.68	17.66	4.72
	35.00	11.08	2.84	13.08	3.54	15.08	4.24	16.00	4.60	16.92	4.96	17.29	4.97	17.66	5.02
	37.00	11.08	3.02	13.08	3.77	15.08	4.51	16.00	4.89	16.92	5.27	17.29	5.29	17.66	5.34
	39.00	11.08	3.04	13.08	3.78	15.08	4.53	16.00	4.91	16.92	5.30	17.29	5.31	17.66	5.36
	41.00	11.08	3.05	13.08	3.80	15.08	4.55	16.00	4.94	16.92	5.32	17.29	5.34	17.66	5.39
	43.00	11.08	3.06	13.08	3.82	15.08	4.57	16.00	4.96	16.92	5.35	17.29	5.36	17.66	5.41
90%	10.00	9.97	1.33	11.77	1.65	13.57	1.98	14.40	2.15	15.23	2.31	15.56	2.32	15.89	2.34
	12.00	9.97	1.35	11.77	1.68	13.57	2.02	14.40	2.19	15.23	2.36	15.56	2.37	15.89	2.39
	14.00	9.97	1.38	11.77	1.71	13.57	2.05	14.40	2.23	15.23	2.40	15.56	2.41	15.89	2.43
	16.00	9.97	1.40	11.77	1.75	13.57	2.09	14.40	2.27	15.23	2.44	15.56	2.45	15.89	2.47
	18.00	9.97	1.43	11.77	1.78	13.57	2.13	14.40	2.31	15.23	2.49	15.56	2.49	15.89	2.52
	19.00	9.97	1.45	11.77	1.81	13.57	2.16	14.40	2.35	15.23	2.53	15.56	2.54	15.89	2.56
	21.00	9.97	1.55	11.77	1.94	13.57	2.32	14.40	2.52	15.23	2.71	15.56	2.72	15.89	2.75
	23.00	9.97	1.67	11.77	2.07	13.57	2.48	14.40	2.69	15.23	2.90	15.56	2.91	15.89	2.94
	25.00	9.97	1.78	11.77	2.22	13.57	2.66	14.40	2.88	15.23	3.11	15.56	3.12	15.89	3.15
	27.00	9.97	1.90	11.77	2.37	13.57	2.84	14.40	3.08	15.23	3.32	15.56	3.33	15.89	3.36
	29.00	9.97	2.03	11.77	2.53	13.57	3.03	14.40	3.29	15.23	3.55	15.56	3.56	15.89	3.59
	31.00	9.97	2.17	11.77	2.70	13.57	3.24	14.40	3.51	15.23	3.78	15.56	3.79	15.89	3.83
	33.00	9.97	2.31	11.77	2.88	13.57	3.45	14.40	3.74	15.23	4.03	15.56	4.04	15.89	4.08
	35.00	9.97	2.46	11.77	3.06	13.57	3.67	14.40	3.98	15.23	4.29	15.56	4.30	15.89	4.34
	37.00	9.97	2.61	11.77	3.26	13.57	3.90	14.40	4.23	15.23	4.56	15.56	4.57	15.89	4.62
	39.00	9.97	2.63	11.77	3.27	13.57	3.92	14.40	4.25	15.23	4.58	15.56	4.59	15.89	4.64
	41.00	9.97	2.64	11.77	3.29	13.57	3.93	14.40	4.27	15.23	4.60	15.56	4.61	15.89	4.66
	43.00	9.97	2.65	11.77	3.30	13.57	3.95	14.40	4.29	15.23	4.62	15.56	4.64	15.89	4.68
80%	10.00	8.86	1.13	10.46	1.41	12.06	1.69	12.80	1.83	13.54	1.98	13.83	1.98	14.12	2.00

Combination (Capacity index)	Outdoor temperature (°C DB)	Indoor temperature(°C WB)													
		14.00		16.00		18.00		19.00		20.00		22.00		24.00	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	12.00	8.86	1.15	10.46	1.44	12.06	1.72	12.80	1.87	13.54	2.01	13.83	2.02	14.12	2.04
	14.00	8.86	1.18	10.46	1.46	12.06	1.75	12.80	1.90	13.54	2.05	13.83	2.06	14.12	2.08
	16.00	8.86	1.20	10.46	1.49	12.06	1.79	12.80	1.94	13.54	2.09	13.83	2.09	14.12	2.11
	18.00	8.86	1.22	10.46	1.52	12.06	1.82	12.80	1.97	13.54	2.12	13.83	2.13	14.12	2.15
	19.00	8.86	1.24	10.46	1.54	12.06	1.85	12.80	2.00	13.54	2.16	13.83	2.17	14.12	2.19
	21.00	8.86	1.33	10.46	1.65	12.06	1.98	12.80	2.15	13.54	2.32	13.83	2.32	14.12	2.35
	23.00	8.86	1.42	10.46	1.77	12.06	2.12	12.80	2.30	13.54	2.48	13.83	2.49	14.12	2.51
	25.00	8.86	1.52	10.46	1.90	12.06	2.27	12.80	2.46	13.54	2.65	13.83	2.66	14.12	2.69
	27.00	8.86	1.63	10.46	2.03	12.06	2.43	12.80	2.63	13.54	2.84	13.83	2.85	14.12	2.87
	29.00	8.86	1.74	10.46	2.16	12.06	2.59	12.80	2.81	13.54	3.03	13.83	3.04	14.12	3.07
	31.00	8.86	1.85	10.46	2.31	12.06	2.76	12.80	3.00	13.54	3.23	13.83	3.24	14.12	3.27
	33.00	8.86	1.97	10.46	2.46	12.06	2.94	12.80	3.19	13.54	3.44	13.83	3.45	14.12	3.49
	35.00	8.86	2.10	10.46	2.62	12.06	3.13	12.80	3.40	13.54	3.66	13.83	3.67	14.12	3.71
	37.00	8.86	2.23	10.46	2.78	12.06	3.33	12.80	3.61	13.54	3.89	13.83	3.91	14.12	3.94
	39.00	8.86	2.24	10.46	2.79	12.06	3.35	12.80	3.63	13.54	3.91	13.83	3.92	14.12	3.96
	41.00	8.86	2.25	10.46	2.81	12.06	3.36	12.80	3.64	13.54	3.93	13.83	3.94	14.12	3.98
	43.00	8.86	2.26	10.46	2.82	12.06	3.38	12.80	3.66	13.54	3.95	13.83	3.96	14.12	4.00
70%	10.00	7.76	0.95	9.16	1.19	10.56	1.42	11.20	1.54	11.84	1.67	12.10	1.67	12.36	1.69
	12.00	7.76	0.97	9.16	1.21	10.56	1.45	11.20	1.57	11.84	1.70	12.10	1.70	12.36	1.72
	14.00	7.76	0.99	9.16	1.23	10.56	1.48	11.20	1.60	11.84	1.73	12.10	1.73	12.36	1.75
	16.00	7.76	1.01	9.16	1.26	10.56	1.50	11.20	1.63	11.84	1.76	12.10	1.76	12.36	1.78
	18.00	7.76	1.03	9.16	1.28	10.56	1.53	11.20	1.66	11.84	1.79	12.10	1.79	12.36	1.81
	19.00	7.76	1.04	9.16	1.30	10.56	1.56	11.20	1.69	11.84	1.82	12.10	1.82	12.36	1.84
	21.00	7.76	1.12	9.16	1.39	10.56	1.67	11.20	1.81	11.84	1.95	12.10	1.96	12.36	1.98
	23.00	7.76	1.20	9.16	1.49	10.56	1.79	11.20	1.94	11.84	2.09	12.10	2.10	12.36	2.12
	25.00	7.76	1.28	9.16	1.60	10.56	1.91	11.20	2.07	11.84	2.24	12.10	2.24	12.36	2.26
	27.00	7.76	1.37	9.16	1.71	10.56	2.04	11.20	2.22	11.84	2.39	12.10	2.40	12.36	2.42
	29.00	7.76	1.46	9.16	1.82	10.56	2.18	11.20	2.37	11.84	2.55	12.10	2.56	12.36	2.58
	31.00	7.76	1.56	9.16	1.94	10.56	2.33	11.20	2.52	11.84	2.72	12.10	2.73	12.36	2.76
	33.00	7.76	1.66	9.16	2.07	10.56	2.48	11.20	2.69	11.84	2.90	12.10	2.91	12.36	2.94
	35.00	7.76	1.77	9.16	2.20	10.56	2.64	11.20	2.86	11.84	3.08	12.10	3.09	12.36	3.12
	37.00	7.76	1.88	9.16	2.34	10.56	2.81	11.20	3.04	11.84	3.28	12.10	3.29	12.36	3.32
	39.00	7.76	1.89	9.16	2.35	10.56	2.82	11.20	3.06	11.84	3.29	12.10	3.30	12.36	3.34
	41.00	7.76	1.90	9.16	2.36	10.56	2.83	11.20	3.07	11.84	3.31	12.10	3.32	12.36	3.35
	43.00	7.76	1.91	9.16	2.37	10.56	2.84	11.20	3.08	11.84	3.32	12.10	3.33	12.36	3.37
60%	10.00	6.65	0.79	7.85	0.98	9.05	1.18	9.60	1.28	10.15	1.38	10.37	1.38	10.59	1.40
	12.00	6.65	0.80	7.85	1.00	9.05	1.20	9.60	1.30	10.15	1.40	10.37	1.41	10.59	1.42
	14.00	6.65	0.82	7.85	1.02	9.05	1.22	9.60	1.33	10.15	1.43	10.37	1.43	10.59	1.45
	16.00	6.65	0.83	7.85	1.04	9.05	1.24	9.60	1.35	10.15	1.45	10.37	1.46	10.59	1.47
	18.00	6.65	0.85	7.85	1.06	9.05	1.27	9.60	1.37	10.15	1.48	10.37	1.48	10.59	1.50
	19.00	6.65	0.86	7.85	1.08	9.05	1.29	9.60	1.40	10.15	1.51	10.37	1.51	10.59	1.53
	21.00	6.65	0.93	7.85	1.15	9.05	1.38	9.60	1.50	10.15	1.61	10.37	1.62	10.59	1.63
	23.00	6.65	0.99	7.85	1.24	9.05	1.48	9.60	1.60	10.15	1.73	10.37	1.73	10.59	1.75
	25.00	6.65	1.06	7.85	1.32	9.05	1.58	9.60	1.72	10.15	1.85	10.37	1.86	10.59	1.87
	27.00	6.65	1.13	7.85	1.41	9.05	1.69	9.60	1.83	10.15	1.98	10.37	1.98	10.59	2.00
	29.00	6.65	1.21	7.85	1.51	9.05	1.81	9.60	1.96	10.15	2.11	10.37	2.12	10.59	2.14

Combination (Capacity index)	Outdoor temperature (°C DB)	Indoor temperature(°C WB)													
		14.00		16.00		18.00		19.00		20.00		22.00		24.00	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
		kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	31.00	6.65	1.29	7.85	1.61	9.05	1.93	9.60	2.09	10.15	2.25	10.37	2.26	10.59	2.28
	33.00	6.65	1.38	7.85	1.71	9.05	2.05	9.60	2.23	10.15	2.40	10.37	2.41	10.59	2.43
	35.00	6.65	1.46	7.85	1.82	9.05	2.18	9.60	2.37	10.15	2.55	10.37	2.56	10.59	2.58
	37.00	6.65	1.56	7.85	1.94	9.05	2.32	9.60	2.52	10.15	2.71	10.37	2.72	10.59	2.75
	39.00	6.65	1.56	7.85	1.95	9.05	2.33	9.60	2.53	10.15	2.73	10.37	2.73	10.59	2.76
	41.00	6.65	1.57	7.85	1.96	9.05	2.34	9.60	2.54	10.15	2.74	10.37	2.75	10.59	2.77
	43.00	6.65	1.58	7.85	1.97	9.05	2.35	9.60	2.55	10.15	2.75	10.37	2.76	10.59	2.79
50%	10.00	5.54	0.64	6.54	0.80	7.54	0.96	8.00	1.04	8.46	1.12	8.64	1.12	8.83	1.13
	12.00	5.54	0.65	6.54	0.81	7.54	0.97	8.00	1.06	8.46	1.14	8.64	1.14	8.83	1.15
	14.00	5.54	0.66	6.54	0.83	7.54	0.99	8.00	1.07	8.46	1.16	8.64	1.16	8.83	1.17
	16.00	5.54	0.68	6.54	0.84	7.54	1.01	8.00	1.09	8.46	1.18	8.64	1.18	8.83	1.19
	18.00	5.54	0.69	6.54	0.86	7.54	1.03	8.00	1.11	8.46	1.20	8.64	1.20	8.83	1.21
	19.00	5.54	0.70	6.54	0.87	7.54	1.04	8.00	1.13	8.46	1.22	8.64	1.22	8.83	1.24
	21.00	5.54	0.75	6.54	0.93	7.54	1.12	8.00	1.21	8.46	1.31	8.64	1.31	8.83	1.32
	23.00	5.54	0.80	6.54	1.00	7.54	1.20	8.00	1.30	8.46	1.40	8.64	1.41	8.83	1.42
	25.00	5.54	0.86	6.54	1.07	7.54	1.28	8.00	1.39	8.46	1.50	8.64	1.50	8.83	1.52
	27.00	5.54	0.92	6.54	1.14	7.54	1.37	8.00	1.49	8.46	1.60	8.64	1.61	8.83	1.62
	29.00	5.54	0.98	6.54	1.22	7.54	1.46	8.00	1.59	8.46	1.71	8.64	1.72	8.83	1.73
	31.00	5.54	1.05	6.54	1.30	7.54	1.56	8.00	1.69	8.46	1.82	8.64	1.83	8.83	1.85
	33.00	5.54	1.11	6.54	1.39	7.54	1.66	8.00	1.80	8.46	1.94	8.64	1.95	8.83	1.97
	35.00	5.54	1.19	6.54	1.48	7.54	1.77	8.00	1.92	8.46	2.07	8.64	2.07	8.83	2.09
	37.00	5.54	1.26	6.54	1.57	7.54	1.88	8.00	2.04	8.46	2.20	8.64	2.21	8.83	2.23
	39.00	5.54	1.27	6.54	1.58	7.54	1.89	8.00	2.05	8.46	2.21	8.64	2.22	8.83	2.24
	41.00	5.54	1.27	6.54	1.58	7.54	1.90	8.00	2.06	8.46	2.22	8.64	2.23	8.83	2.25
	43.00	5.54	1.28	6.54	1.59	7.54	1.91	8.00	2.07	8.46	2.23	8.64	2.24	8.83	2.26

Heating

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
130%	-14.7	-15	11.30	4.24	11.30	4.33	11.30	4.42	10.85	4.22	10.40	4.03	9.51	3.64
	-12.6	-13	11.93	4.31	11.93	4.40	11.93	4.49	11.46	4.29	10.98	4.10	10.04	3.70
	-10.5	-11	12.56	4.38	12.56	4.47	12.56	4.56	12.06	4.36	11.56	4.16	10.57	3.76
	-9.5	-10	12.86	4.41	12.86	4.50	12.86	4.60	12.35	4.40	11.84	4.19	10.82	3.79
	-8.5	-9.1	13.16	4.44	13.16	4.54	13.16	4.63	12.64	4.43	12.11	4.23	11.07	3.82
	-7	-7.6	13.61	4.49	13.61	4.59	13.61	4.68	13.07	4.48	12.53	4.27	11.45	3.86
	-5	-5.6	14.21	4.56	14.21	4.66	14.21	4.75	13.64	4.54	13.08	4.34	11.95	3.92
	-3	-3.7	14.81	4.63	14.81	4.72	14.81	4.82	14.22	4.61	13.63	4.40	12.46	3.98
	0	-0.7	15.70	4.72	15.70	4.83	15.70	4.93	15.08	4.71	14.46	4.49	13.21	4.06
	3	2.2	16.60	4.82	16.60	4.93	16.60	5.03	15.94	4.81	15.28	4.59	13.97	4.15
	5	4.1	17.20	4.89	17.20	5.00	17.20	5.10	16.52	4.88	15.84	4.65	14.47	4.21
	7	6	17.80	4.96	17.80	5.06	17.80	5.17	17.09	4.94	16.39	4.72	14.97	4.26
	9	7.9	17.80	4.79	17.80	4.89	17.80	5.00	17.09	4.78	16.39	4.56	14.97	4.12
	11	9.8	17.80	4.63	17.80	4.72	17.80	4.82	17.09	4.61	16.39	4.40	14.97	3.98
	13	11.8	17.80	4.46	17.80	4.55	17.80	4.65	17.09	4.45	16.39	4.24	14.97	3.83
	15	13.7	17.80	4.29	17.80	4.38	17.80	4.48	17.09	4.28	16.39	4.08	14.97	3.69
120%	-14.7	-15	11.30	4.36	11.30	4.45	11.30	4.55	10.85	4.35	10.40	4.15	9.51	3.75
	-12.6	-13	11.93	4.43	11.93	4.53	11.93	4.62	11.46	4.42	10.98	4.22	10.04	3.81
	-10.5	-11	12.56	4.50	12.56	4.60	12.56	4.70	12.06	4.49	11.56	4.28	10.57	3.87
	-9.5	-10	12.86	4.54	12.86	4.63	12.86	4.73	12.35	4.52	11.84	4.32	10.82	3.90
	-8.5	-9.1	13.16	4.57	13.16	4.67	13.16	4.77	12.64	4.56	12.11	4.35	11.07	3.93
	-7	-7.6	13.61	4.62	13.61	4.72	13.61	4.82	13.07	4.61	12.53	4.40	11.45	3.98
	-5	-5.6	14.21	4.69	14.21	4.79	14.21	4.89	13.64	4.68	13.08	4.46	11.95	4.04
	-3	-3.7	14.81	4.76	14.81	4.86	14.81	4.96	14.22	4.75	13.63	4.53	12.46	4.09
	0	-0.7	15.70	4.86	15.70	4.97	15.70	5.07	15.08	4.85	14.46	4.63	13.21	4.18
	3	2.2	16.60	4.97	16.60	5.07	16.60	5.18	15.94	4.95	15.28	4.72	13.97	4.27
	5	4.1	17.20	5.04	17.20	5.14	17.20	5.25	16.52	5.02	15.84	4.79	14.47	4.33
	7	6	17.80	5.10	17.80	5.21	17.80	5.32	17.09	5.09	16.39	4.86	14.97	4.39
	9	7.9	17.80	4.93	17.80	5.04	17.80	5.14	17.09	4.92	16.39	4.69	14.97	4.24
	11	9.8	17.80	4.76	17.80	4.86	17.80	4.96	17.09	4.75	16.39	4.53	14.97	4.09
	13	11.8	17.80	4.59	17.80	4.69	17.80	4.79	17.09	4.58	16.39	4.37	14.97	3.95
	15	13.7	17.80	4.42	17.80	4.51	17.80	4.61	17.09	4.41	16.39	4.20	14.97	3.80
110%	-14.7	-15	11.30	3.96	11.30	4.04	11.30	4.13	10.85	3.94	10.40	3.76	9.51	3.40
	-12.6	-13	11.93	4.02	11.93	4.11	11.93	4.19	11.46	4.01	10.98	3.83	10.04	3.46
	-10.5	-11	12.56	4.09	12.56	4.17	12.56	4.26	12.06	4.08	11.56	3.89	10.57	3.52
	-9.5	-10	12.86	4.12	12.86	4.21	12.86	4.29	12.35	4.11	11.84	3.92	10.82	3.54
	-8.5	-9.1	13.16	4.15	13.16	4.24	13.16	4.33	12.64	4.14	12.11	3.95	11.07	3.57
	-7	-7.6	13.61	4.20	13.61	4.29	13.61	4.38	13.07	4.18	12.53	3.99	11.45	3.61
	-5	-5.6	14.21	4.26	14.21	4.35	14.21	4.44	13.64	4.25	13.08	4.05	11.95	3.66
	-3	-3.7	14.81	4.32	14.81	4.41	14.81	4.51	14.22	4.31	13.63	4.11	12.46	3.72
	0	-0.7	15.70	4.41	15.70	4.51	15.70	4.60	15.08	4.40	14.46	4.20	13.21	3.80
	3	2.2	16.60	4.51	16.60	4.60	16.60	4.70	15.94	4.49	15.28	4.29	13.97	3.88
	5	4.1	17.20	4.57	17.20	4.67	17.20	4.77	16.52	4.56	15.84	4.35	14.47	3.93
	7	6	17.80	4.63	17.80	4.73	17.80	4.83	17.09	4.62	16.39	4.41	14.97	3.98
	9	7.9	17.80	4.48	17.80	4.57	17.80	4.67	17.09	4.46	16.39	4.26	14.97	3.85

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	11	9.8	17.80	4.32	17.80	4.41	17.80	4.51	17.09	4.31	16.39	4.11	14.97	3.72
	13	11.8	17.80	4.17	17.80	4.25	17.80	4.34	17.09	4.15	16.39	3.96	14.97	3.58
	15	13.7	17.80	4.01	17.80	4.10	17.80	4.18	17.09	4.00	16.39	3.81	14.97	3.45
100%	-14.7	-15	11.30	3.96	11.30	4.04	11.30	4.13	10.85	3.94	10.40	3.76	9.51	3.40
	-12.6	-13	11.93	4.02	11.93	4.11	11.93	4.19	11.46	4.01	10.98	3.83	10.04	3.46
	-10.5	-11	12.56	4.09	12.56	4.17	12.56	4.26	12.06	4.08	11.56	3.89	10.57	3.52
	-9.5	-10	12.86	4.12	12.86	4.21	12.86	4.29	12.35	4.11	11.84	3.92	10.82	3.54
	-8.5	-9.1	13.16	4.15	13.16	4.24	13.16	4.33	12.64	4.14	12.11	3.95	11.07	3.57
	-7	-7.6	13.61	4.20	13.61	4.29	13.61	4.38	13.07	4.18	12.53	3.99	11.45	3.61
	-5	-5.6	14.21	4.26	14.21	4.35	14.21	4.44	13.64	4.25	13.08	4.05	11.95	3.66
	-3	-3.7	14.81	4.32	14.81	4.41	14.81	4.51	14.22	4.31	13.63	4.11	12.46	3.72
	0	-0.7	15.70	4.41	15.70	4.51	15.70	4.60	15.08	4.40	14.46	4.20	13.21	3.80
	3	2.2	16.60	4.51	16.60	4.60	16.60	4.70	15.94	4.49	15.28	4.29	13.97	3.88
	5	4.1	17.20	4.57	17.20	4.67	17.20	4.77	16.52	4.56	15.84	4.35	14.47	3.93
	7	6	17.80	4.63	17.80	4.73	17.80	4.83	17.09	4.62	16.39	4.41	14.97	3.98
	9	7.9	17.80	4.48	17.80	4.57	17.80	4.67	17.09	4.46	16.39	4.26	14.97	3.85
	11	9.8	17.80	4.32	17.80	4.41	17.80	4.51	17.09	4.31	16.39	4.11	14.97	3.72
	13	11.8	17.80	4.17	17.80	4.25	17.80	4.34	17.09	4.15	16.39	3.96	14.97	3.58
	15	13.7	17.80	4.01	17.80	4.10	17.80	4.18	17.09	4.00	16.39	3.81	14.97	3.45
90%	-14.7	-15	10.17	3.51	10.17	3.58	10.17	3.66	9.77	3.50	9.36	3.34	8.56	3.02
	-12.6	-13	10.74	3.57	10.74	3.64	10.74	3.72	10.31	3.56	9.89	3.39	9.03	3.07
	-10.5	-11	11.30	3.62	11.30	3.70	11.30	3.78	10.85	3.61	10.41	3.45	9.51	3.12
	-9.5	-10	11.57	3.65	11.57	3.73	11.57	3.81	11.11	3.64	10.65	3.47	9.74	3.14
	-8.5	-9.1	11.84	3.68	11.84	3.76	11.84	3.84	11.37	3.67	10.90	3.50	9.96	3.16
	-7	-7.6	12.25	3.72	12.25	3.80	12.25	3.88	11.76	3.71	11.27	3.54	10.30	3.20
	-5	-5.6	12.79	3.78	12.79	3.86	12.79	3.94	12.28	3.76	11.77	3.59	10.76	3.25
	-3	-3.7	13.32	3.83	13.32	3.91	13.32	3.99	12.80	3.82	12.27	3.64	11.21	3.29
	0	-0.7	14.13	3.91	14.13	4.00	14.13	4.08	13.57	3.90	13.01	3.72	11.89	3.37
	3	2.2	14.94	4.00	14.94	4.08	14.94	4.17	14.35	3.98	13.76	3.80	12.57	3.44
	5	4.1	15.48	4.05	15.48	4.14	15.48	4.23	14.87	4.04	14.25	3.85	13.02	3.48
	7	6	16.02	4.11	16.02	4.19	16.02	4.28	15.38	4.09	14.75	3.91	13.48	3.53
	9	7.9	16.02	3.97	16.02	4.05	16.02	4.14	15.38	3.96	14.75	3.78	13.48	3.41
	11	9.8	16.02	3.83	16.02	3.91	16.02	4.00	15.38	3.82	14.75	3.64	13.48	3.29
	13	11.8	16.02	3.69	16.02	3.77	16.02	3.85	15.38	3.68	14.75	3.51	13.48	3.18
	15	13.7	16.02	3.56	16.02	3.63	16.02	3.71	15.38	3.54	14.75	3.38	13.48	3.06
80%	-14.7	-15	9.04	3.08	9.04	3.15	9.04	3.21	8.68	3.07	8.32	2.93	7.61	2.65
	-12.6	-13	9.54	3.13	9.54	3.20	9.54	3.27	9.17	3.12	8.79	2.98	8.03	2.69
	-10.5	-11	10.05	3.18	10.05	3.25	10.05	3.32	9.65	3.17	9.25	3.03	8.45	2.74
	-9.5	-10	10.29	3.21	10.29	3.28	10.29	3.34	9.88	3.20	9.47	3.05	8.65	2.76
	-8.5	-9.1	10.53	3.23	10.53	3.30	10.53	3.37	10.11	3.22	9.69	3.07	8.86	2.78
	-7	-7.6	10.89	3.27	10.89	3.34	10.89	3.41	10.45	3.26	10.02	3.11	9.16	2.81
	-5	-5.6	11.37	3.32	11.37	3.39	11.37	3.46	10.91	3.31	10.46	3.15	9.56	2.85
	-3	-3.7	11.84	3.36	11.84	3.44	11.84	3.51	11.37	3.35	10.90	3.20	9.96	2.89
	0	-0.7	12.56	3.44	12.56	3.51	12.56	3.58	12.06	3.43	11.57	3.27	10.57	2.96
	3	2.2	13.28	3.51	13.28	3.58	13.28	3.66	12.75	3.50	12.23	3.34	11.17	3.02

Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	5	4.1	13.76	3.56	13.76	3.63	13.76	3.71	13.21	3.55	12.67	3.38	11.58	3.06
	7	6	14.24	3.61	14.24	3.68	14.24	3.76	13.67	3.60	13.11	3.43	11.98	3.10
	9	7.9	14.24	3.49	14.24	3.56	14.24	3.63	13.67	3.48	13.11	3.32	11.98	3.00
	11	9.8	14.24	3.36	14.24	3.44	14.24	3.51	13.67	3.35	13.11	3.20	11.98	2.89
	13	11.8	14.24	3.24	14.24	3.31	14.24	3.38	13.67	3.23	13.11	3.09	11.98	2.79
	15	13.7	14.24	3.12	14.24	3.19	14.24	3.26	13.67	3.11	13.11	2.97	11.98	2.68
70%	-14.7	-15	7.91	2.65	7.91	2.71	7.91	2.77	7.60	2.65	7.28	2.52	6.66	2.28
	-12.6	-13	8.35	2.70	8.35	2.75	8.35	2.81	8.02	2.69	7.69	2.57	7.03	2.32
	-10.5	-11	8.79	2.74	8.79	2.80	8.79	2.86	8.44	2.73	8.09	2.61	7.40	2.36
	-9.5	-10	9.00	2.76	9.00	2.82	9.00	2.88	8.64	2.75	8.29	2.63	7.57	2.37
	-8.5	-9.1	9.21	2.78	9.21	2.84	9.21	2.90	8.85	2.77	8.48	2.65	7.75	2.39
	-7	-7.6	9.53	2.81	9.53	2.87	9.53	2.93	9.15	2.81	8.77	2.68	8.01	2.42
	-5	-5.6	9.94	2.86	9.94	2.92	9.94	2.98	9.55	2.85	9.16	2.72	8.37	2.46
	-3	-3.7	10.36	2.90	10.36	2.96	10.36	3.02	9.95	2.89	9.54	2.76	8.72	2.49
	0	-0.7	10.99	2.96	10.99	3.02	10.99	3.09	10.56	2.95	10.12	2.82	9.25	2.55
	3	2.2	11.62	3.02	11.62	3.09	11.62	3.15	11.16	3.01	10.70	2.88	9.78	2.60
	5	4.1	12.04	3.06	12.04	3.13	12.04	3.19	11.56	3.05	11.09	2.92	10.13	2.64
	7	6	12.46	3.11	12.46	3.17	12.46	3.24	11.97	3.10	11.47	2.95	10.48	2.67
	9	7.9	12.46	3.00	12.46	3.07	12.46	3.13	11.97	2.99	11.47	2.86	10.48	2.58
	11	9.8	12.46	2.90	12.46	2.96	12.46	3.02	11.97	2.89	11.47	2.76	10.48	2.49
	13	11.8	12.46	2.79	12.46	2.85	12.46	2.91	11.97	2.78	11.47	2.66	10.48	2.40
	15	13.7	12.46	2.69	12.46	2.75	12.46	2.80	11.97	2.68	11.47	2.56	10.48	2.31
60%	-14.7	-15	6.78	2.23	6.78	2.27	6.78	2.32	6.51	2.22	6.24	2.12	5.70	1.91
	-12.6	-13	7.16	2.26	7.16	2.31	7.16	2.36	6.87	2.26	6.59	2.15	6.02	1.95
	-10.5	-11	7.54	2.30	7.54	2.35	7.54	2.40	7.24	2.29	6.94	2.19	6.34	1.98
	-9.5	-10	7.72	2.32	7.72	2.37	7.72	2.42	7.41	2.31	7.10	2.20	6.49	1.99
	-8.5	-9.1	7.89	2.33	7.89	2.38	7.89	2.43	7.58	2.33	7.27	2.22	6.64	2.01
	-7	-7.6	8.16	2.36	8.16	2.41	8.16	2.46	7.84	2.35	7.52	2.25	6.87	2.03
	-5	-5.6	8.52	2.40	8.52	2.45	8.52	2.50	8.19	2.39	7.85	2.28	7.17	2.06
	-3	-3.7	8.88	2.43	8.88	2.48	8.88	2.53	8.53	2.42	8.18	2.31	7.47	2.09
	0	-0.7	9.42	2.48	9.42	2.54	9.42	2.59	9.05	2.48	8.67	2.36	7.93	2.13
	3	2.2	9.96	2.54	9.96	2.59	9.96	2.64	9.57	2.53	9.17	2.41	8.38	2.18
	5	4.1	10.32	2.57	10.32	2.63	10.32	2.68	9.91	2.56	9.50	2.45	8.68	2.21
	7	6	10.68	2.61	10.68	2.66	10.68	2.72	10.26	2.60	9.83	2.48	8.98	2.24
	9	7.9	10.68	2.52	10.68	2.57	10.68	2.63	10.26	2.51	9.83	2.40	8.98	2.17
	11	9.8	10.68	2.43	10.68	2.48	10.68	2.53	10.26	2.42	9.83	2.31	8.98	2.09
	13	11.8	10.68	2.34	10.68	2.39	10.68	2.44	10.26	2.34	9.83	2.23	8.98	2.01
	15	13.7	10.68	2.26	10.68	2.30	10.68	2.35	10.26	2.25	9.83	2.15	8.98	1.94
50%	-14.7	-15	5.65	1.80	5.65	1.84	5.65	1.87	5.43	1.79	5.20	1.71	4.75	1.55
	-12.6	-13	5.97	1.83	5.97	1.87	5.97	1.91	5.73	1.82	5.49	1.74	5.02	1.57
	-10.5	-11	6.28	1.86	6.28	1.90	6.28	1.94	6.03	1.85	5.78	1.77	5.28	1.60
	-9.5	-10	6.43	1.87	6.43	1.91	6.43	1.95	6.17	1.87	5.92	1.78	5.41	1.61
	-8.5	-9.1	6.58	1.89	6.58	1.93	6.58	1.97	6.32	1.88	6.06	1.79	5.53	1.62
	-7	-7.6	6.80	1.91	6.80	1.95	6.80	1.99	6.53	1.90	6.26	1.81	5.72	1.64
	-5	-5.6	7.10	1.93	7.10	1.98	7.10	2.02	6.82	1.93	6.54	1.84	5.98	1.66

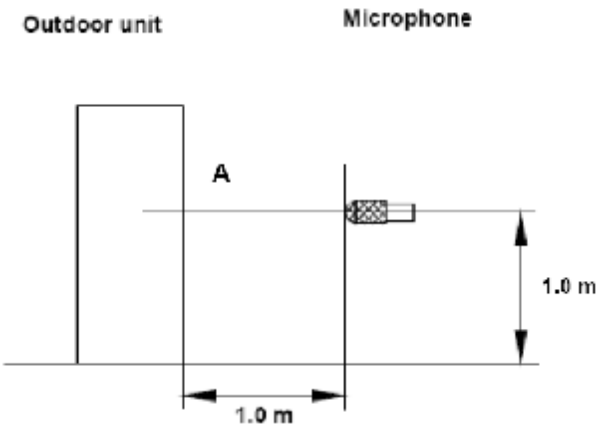
Combination (Capacity index)	Outdoor air temp.		Indoor temperature(°C DB)											
			16		18		20		21		22		24	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
	°C DB	°C WB	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW	kW
	-3	-3.7	7.40	1.96	7.40	2.00	7.40	2.05	7.11	1.96	6.82	1.87	6.23	1.69
	0	-0.7	7.85	2.01	7.85	2.05	7.85	2.09	7.54	2.00	7.23	1.91	6.61	1.72
	3	2.2	8.30	2.05	8.30	2.09	8.30	2.14	7.97	2.04	7.64	1.95	6.98	1.76
	5	4.1	8.60	2.08	8.60	2.12	8.60	2.16	8.26	2.07	7.92	1.98	7.24	1.79
	7	6	8.90	2.10	8.90	2.15	8.90	2.19	8.55	2.10	8.19	2.00	7.49	1.81
	9	7.9	8.90	2.03	8.90	2.08	8.90	2.12	8.55	2.03	8.19	1.93	7.49	1.75
	11	9.8	8.90	1.96	8.90	2.01	8.90	2.05	8.55	1.96	8.19	1.87	7.49	1.69
	13	11.8	8.90	1.89	8.90	1.93	8.90	1.97	8.55	1.89	8.19	1.80	7.49	1.63
	15	13.7	8.90	1.82	8.90	1.86	8.90	1.90	8.55	1.82	8.19	1.73	7.49	1.57

8. Electric Characteristics

Model	Outdoor Unit				Power Supply		Compressor	OFM	
	Hz	Voltage	Min.	Max.	TOCA	MFA	RLA	kW	FLA
MDV-V105W/SN1	50	380-415V	342V	440V	20	25A	9.62	0.2	1.4
MDV-V140W/SN1	50	380-415V	342V	440V	20	25A	9.62	0.1	0.751 x 2
MDV-V160W/SN1	50	380-415V	342V	440V	20	25A	9.62	0.1	0.751 x 2

Remark:
TOCA: Total Over-current Amps. (A)
MFA: Max. Fuse Amps. (A)
RLA: Rated Locked Amps. (A)
OFM: Outdoor Fan Motor.
FLA: Full Load Amps. (A)
KW: Rated Motor Output (KW)

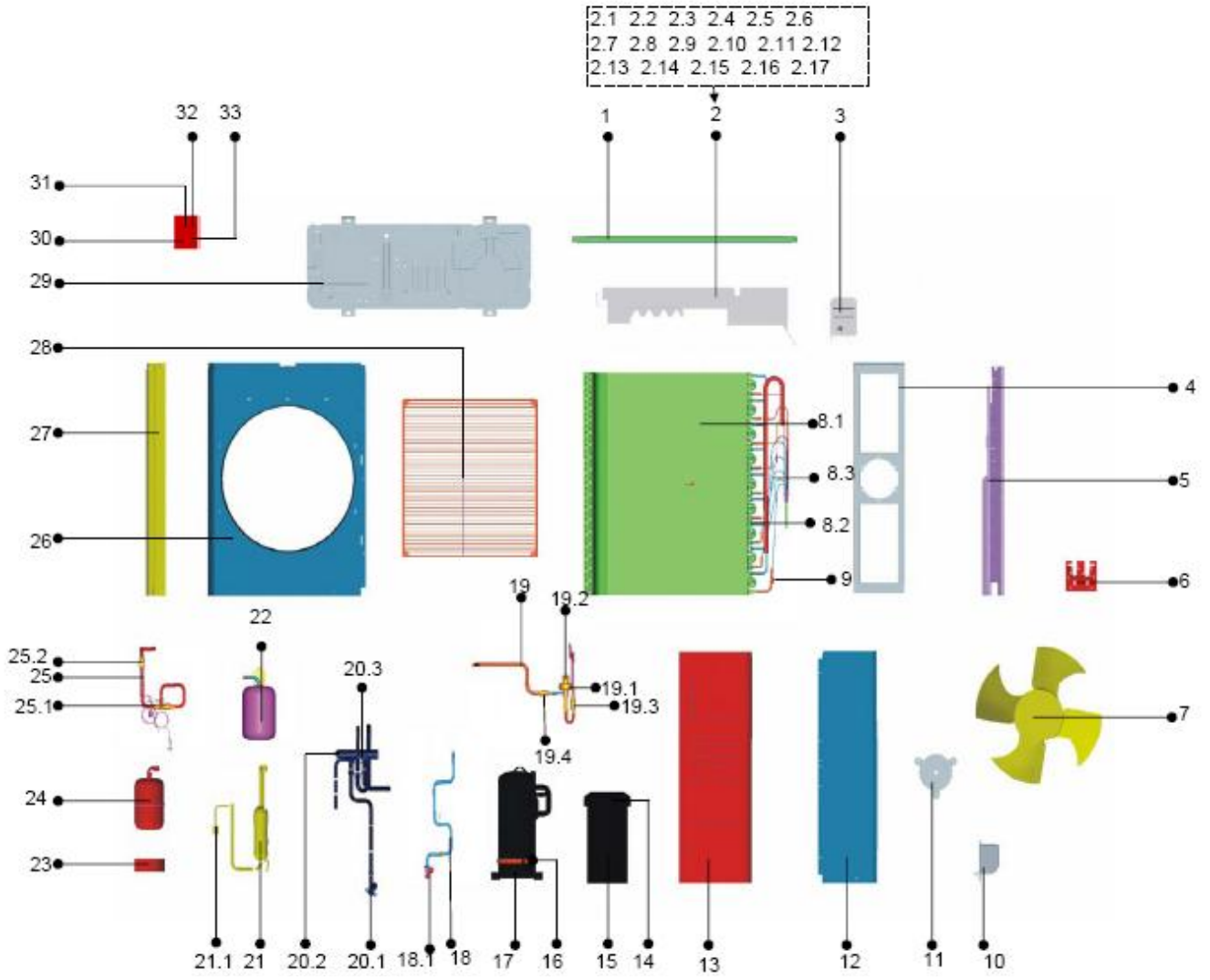
9. Sound Levels



Model	Noise level dB(A)	
	High speed	Low speed
MDV-V105W/SN1	58	56
MDV-V140W/SN1	57	56
MDV-V160W/SN1	57	56

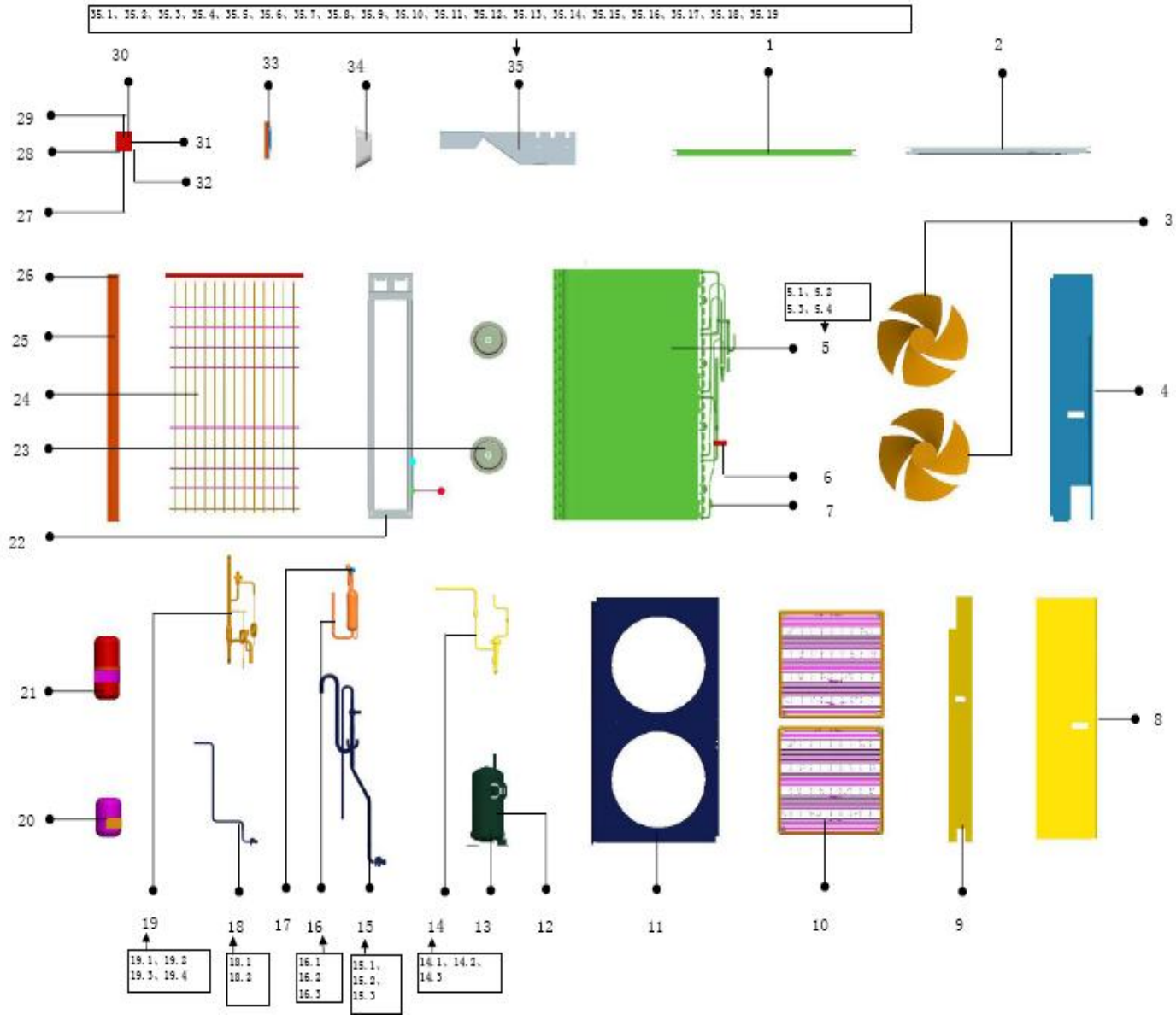
10. Exploded View

MDV-V105W/SN1



No.	Part Name	Quantity		No.	Part Name	Quantity
1	Top cover ass'y	1		13	Front right clapboard ass'y	1
2	E-part box ass'y	1		14	Sponge	1
2.1	E-part box	1		15	Sponge	1
2.2	Contactor	1		16	Compressor electric heater	1
2.3	Compressor capacitor	1		17	Compressor	1
2.4	Inverter module	1		18	High Pressure Valve Ass'y	1
2.5	Main control board ass'y	1		18.1	High pressure valve	1
2.6	Filter board ass'y	1		19	Electronic expansion valve ass'y	1
2.7	Capacitor	1		19.1	EEV solenoid	1
2.8	Three phase bridge	1		19.2	Electronic expansion valve	1
2.9	Single-phase bridge	1		19.3	Strainer	1
2.10	Transformer	1		19.4	Strainer	1
2.11	Transformer	1		20	4-way valve ass'y	1
2.12	Resistor	1		20.1	Low pressure valve	1
2.13	Resistance	1		20.2	4-way valve	1
2.14	Wire joint	1		20.3	Solenoid	1
2.15	Wire joint	1		21	Discharge pipe ass'y	1
2.16	Surge suppresser	1		21.1	Pressure controller	1
2.17	Radiator	1		22	Accumulator tank	1
3	Big handle	1		23	Fixing ring	1
4	Motor bracket ass'y	1		24	Accumulator cylinder	1
5	Partition board ass'y	1		25	Suction pipe ass'y	1
6	Valve plate	1		25.1	Pressure controller	1
7	Axial flow fan	1		25.2	Strainer	1
8	Condenser ass'y	1		26	Front panel	1
8.1	Condenser	1		27	Left holder	1
8.2	Fluted pipe ass'y	1		28	Grille	1
8.3	Capillary ass'y	1		29	Base	1
9	Discharge temp sensor ass'y	1		30	Inductance Holder	1
10	Drainage pan	1		31	Inductance cover	1
11	Motor	1		32	Electrical inductance	1
12	Rear right clapboard ass'y	1		33	Board	1

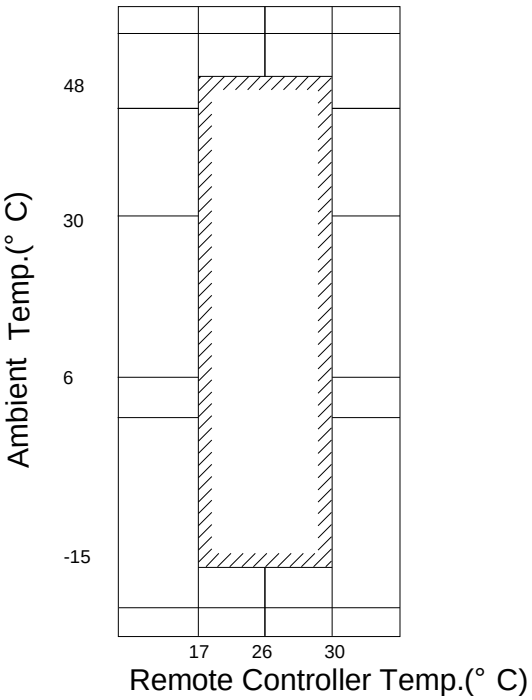
MDV-V140W/SN1、MDV-V160W/SN1



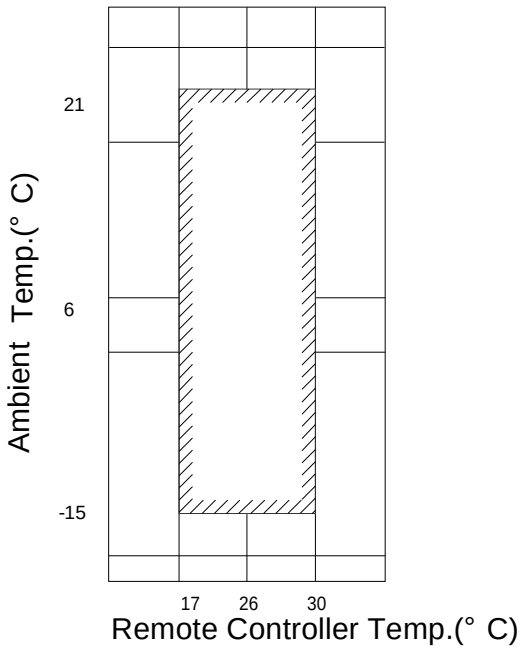
No.	Part Name	Quantity	No.	Part Name	Quantity
1	Top cover ass'y	1	19.4	Strainer	1
2	Base	1	20	Accumulator cylinder	1
3	Axial flow fan	2	21	Accumulator cylinder	1
4	Rear clapboard ass'y	1	22	Motor bracket ass'y	1
5	Condenser ass'y	1	23	Motor	2
5.1	Condenser	1	24	Rear net	1
5.2	Capillary ass'y	1	25	Rear support board	1
5.3	Input pipe ass'y	1	26	Rear support board	1
5.4	Input pipe ass'y	1	27	Inductance Holder	1
6	Rubber gasket	1	28	Inductance cover	1
7	Discharge temp sensor ass'y	1	29	Electrical inductance	1
8	Front clapboard ass'y	1	30	Board	1
9	Partition board ass'y	1	31	Inductance compound damper I	2
10	Grille	1	32	Inductance compound damper II	1
11	Front panel ass'y	1	33	Valve plate	1
12	Compressor electric heater	1	34	Drainage pan	1
13	Compressor	1	35	E-part box ass'y	1
14	Electronic expansion valve ass'y	1	35.1	Filter board ass'y	1
14.1	Electronic expansion valve	1	35.2	Main control board ass'y	1
14.2	EEV solenoid	1	35.3	Inverter module	1
14.3	Strainer	2	35.4	Surge suppresser	2
15	4-way valve ass'y	1	35.5	RS485 communication connect wire	1
15.1	Low pressure valve	1	35.6	Transformer	1
15.2	4-way valve	1	35.7	Transformer	1
15.3	Solenoid	1	35.8	Motor capacitor	2
16	Discharge pipe ass'y		35.9	Switch Protection wiring	1
16.1	Oil separator	1	35.10	Aluminum electro analysis capacitor	2
16.2	Pressure controller	1	35.11	Resistor	2
16.3	Strainer	1	35.12	Resistance	2
17	Colloid	1	35.13	Single-phase bridge	1
18	High pressure valve ass'y	1	35.14	Contactor	1
18.1	High pressure valve	1	35.15	Wire joint	1
18.2	Take-over	1	35.16	Wire joint	1
19	Suction pipe ass'y	1	35.17	Radiator	1
19.1	Pressure controller	1	35.18	Compressor capacitor	1
19.2	Solenoid valve	1	35.19	Three phase bridge	1
19.3	Solenoid valve winding	1			

11. Operation Limits

Cooling



Heating



12. Troubleshooting

12.1 Troubles and causes of air conditioner

If one of the following malfunctions occur, stop operation, shut off the power, and contact with your dealer.

■ The operation lamp is flashing rapidly (twice every second) This lamp is still flashing rapidly after turn off the power and turn on again.

■ Remote controller receives malfunction or the button does not work well.

■ A safety device such as a fuse, a breaker frequently actuates.

■ Obstacles and water enter the unit.

■ Water leaks from indoor unit.

■ Other malfunctions.

If the system does not properly operate except the above mentioned cases or the above mentioned malfunctions is evident, investigate the system according to the following procedures.

Symptoms	Causes	Solution
Unit does not start	l Power failure. l Power switch is off. l Fuse of power switch may have burned. l Batteries of remote controller exhausted or other problem of controller.	l Wait for the comeback of power.. l Switch on the power. l Relocation. l Replace the batteries or check the controller.
Air flowing normally but completely can it cooling	l Temperature is not set correctly. l Be in 3 minutes protection of compressor	l Set the temperature properly. l Wait.
Units start or stop frequently	l Refrigerant is too little or too much. l Air or no concreting gas in the refrigerating circuit. l Compressor is malfunction. l Voltage is too high or too low. l System circuit is blocked.	l Check leakage, and rightly recharge refrigerant. l Vacuum and recharge refrigerant. l Maintenance or change compressor. l Install manostat. l Find reasons and solution.
Low cooling effect	l Outdoor unit and indoor unit heat exchanger is dirty. l The air filter is dirty. l Inlet/outlet of indoor/outdoor units is blocked. l Doors and windows are open. l Sunlight directly shine. l Too much heat resource. l Outdoor temp. is too high. l Leakage of refrigerant or lack of refrigerant.	l Clean the heat exchanger. l Clean the air filter. l Eliminate all dirties and make air smooth. l Close doors and windows. l Make curtains in order to shelter from sunshine. l Reduce heat source. l AC cooling capacity reduces normal). l Check leakage and rightly recharge Refrigerant.
Low heating effect	l Outdoor temperature is lower than 7 C l Doors and windows not completely closed. l Leakage of refrigerant or lack of refrigerant.	l ●Use heating device. l ●Close doors and windows. l ●Check leakage and rightly recharge refrigerant.

12.2 Troubles and causes of remote controller

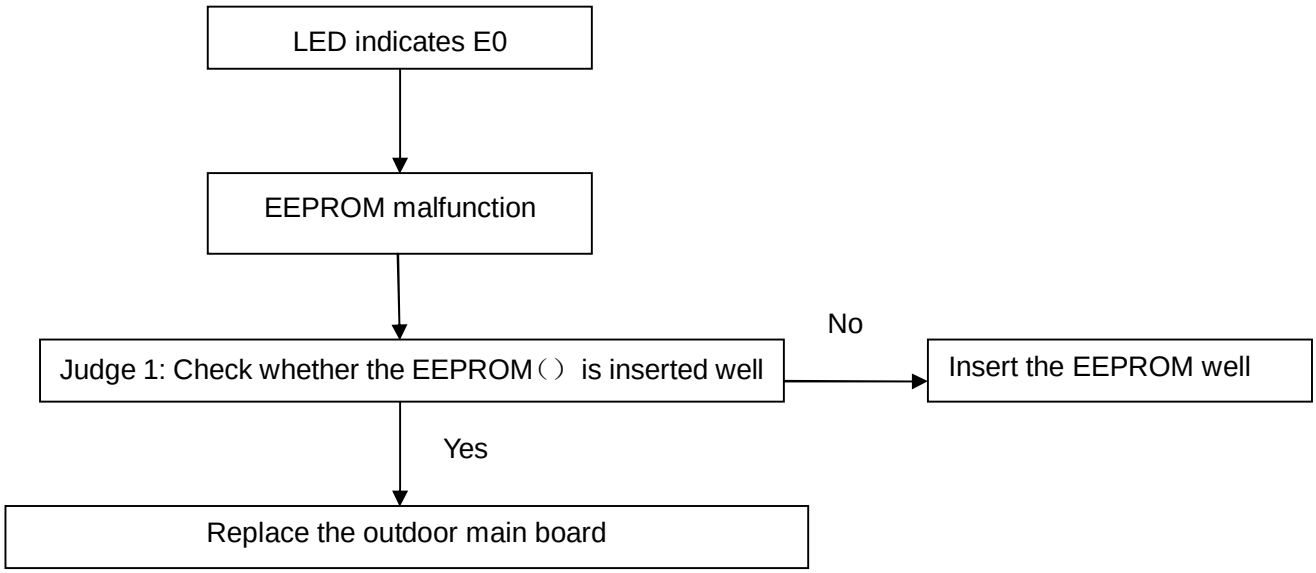
Before asking for serving or repairing, check the following points.

Symptoms	Causes	Solution
The fan speed can not be changed.	l Check whether the MODE indicated on the display is "AUTO"	When the automatic mode is selected, the air conditioner will automatically change the fan speed.
	l Check whether the MODE indicated on the display is "DRY"	When dry operation is selected，the air conditioner automatically change the fan speed. The fan speed can be selected during "COOL" , "FAN ONLY", and "HEAT"
The remote controller signal is not transmitted even when the ON/OFF button is pushed.	l Check whether the batteries in the remote controller are exhausted.	The power supply is off.
The TEMP .Indicator does not come on.	l Check whether the MODE indicated on the display is FAN ONLY	The temperature cannot be set during FAN mode.
The indication on the display disappears after a lapse of time.	l Check whether the timer operation has come to an end when the TIMER OFF is indicated on the display.	The air conditioner operation will stop up to the set time
The TIMER ON indicator goes off after a lapse of certain time.	l Check whether the timer operation is started when the TIMER ON is indicated on the display.	Up to the set time, the air conditioner will automatically start and the appropriate indicator will go off.
No receiving tone sounds from the indoor unit even when the ON/OFF button is pressed.	l Check whether the signal transmitter of the remote controller is properly directed to the infrared signal receiver of the indoor unit when the ON/OFF button is pressed.	Directly transmit the signal transmitter of the remote controller to the infrared signal receiver of the indoor unit, and then repeatly push the ON/OFF button twice.

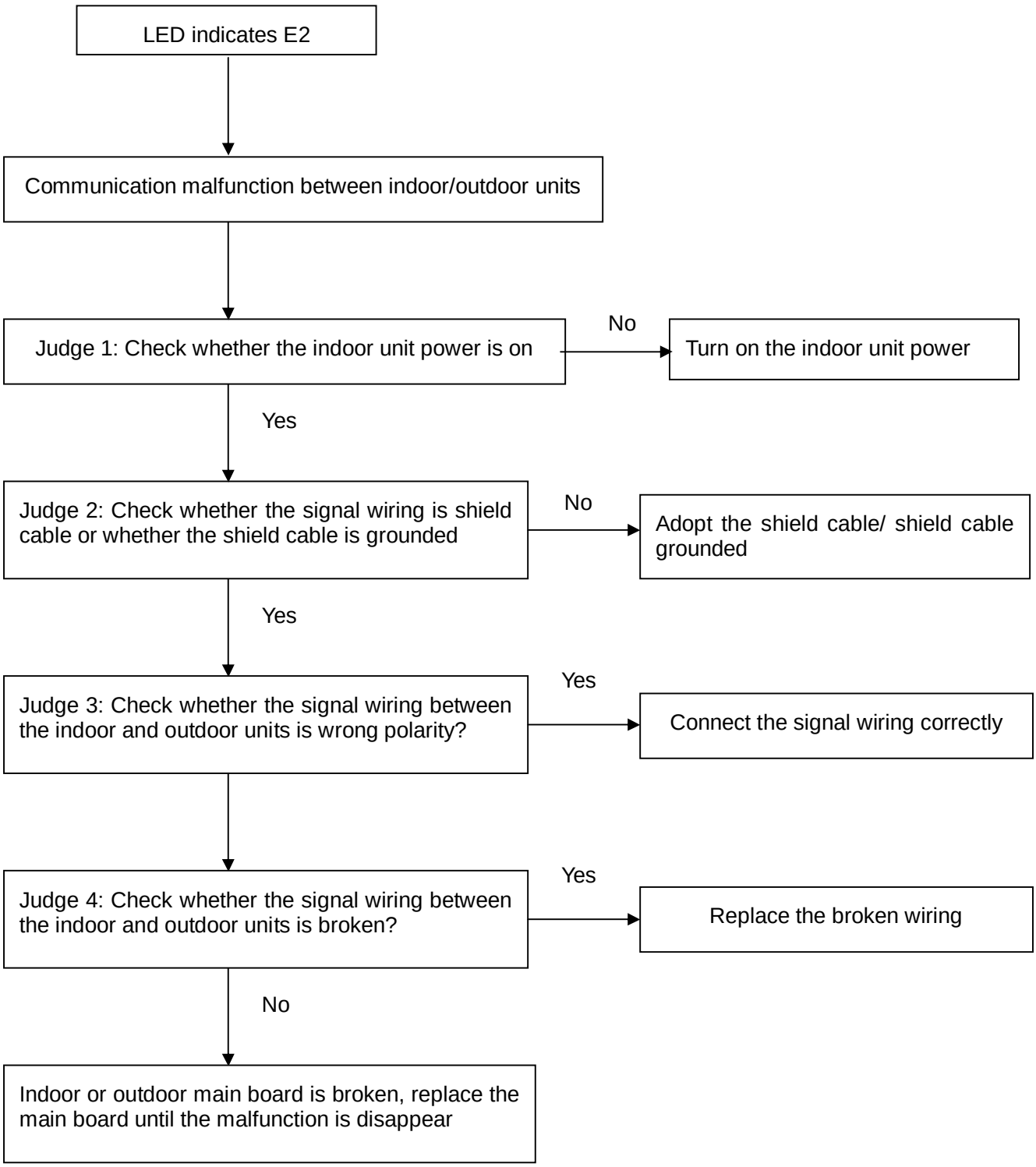
12.3 Malfunction Code of Indoor unit

No.	Type	Contents	LED Lamp flash	Remarks
1	Malfunction	The evaporator sensor check point is abnormal, or room temp. sensor is abnormal.	Operation lamp flashes at 2.5Hz.	After the malfunctions disappear, it restores automatically.
2	Malfunction	Indoor/outdoor unit communication is abnormal.	The timer lamp flashes at 2.5Hz.	After the malfunctions disappear, it restores automatically.
3	Malfunction	Condenser sensor check point is abnormal or outdoor unit is abnormal.	All the indoor alarm lamps flash at 0.5Hz.	After the malfunctions disappear, it restores automatically.

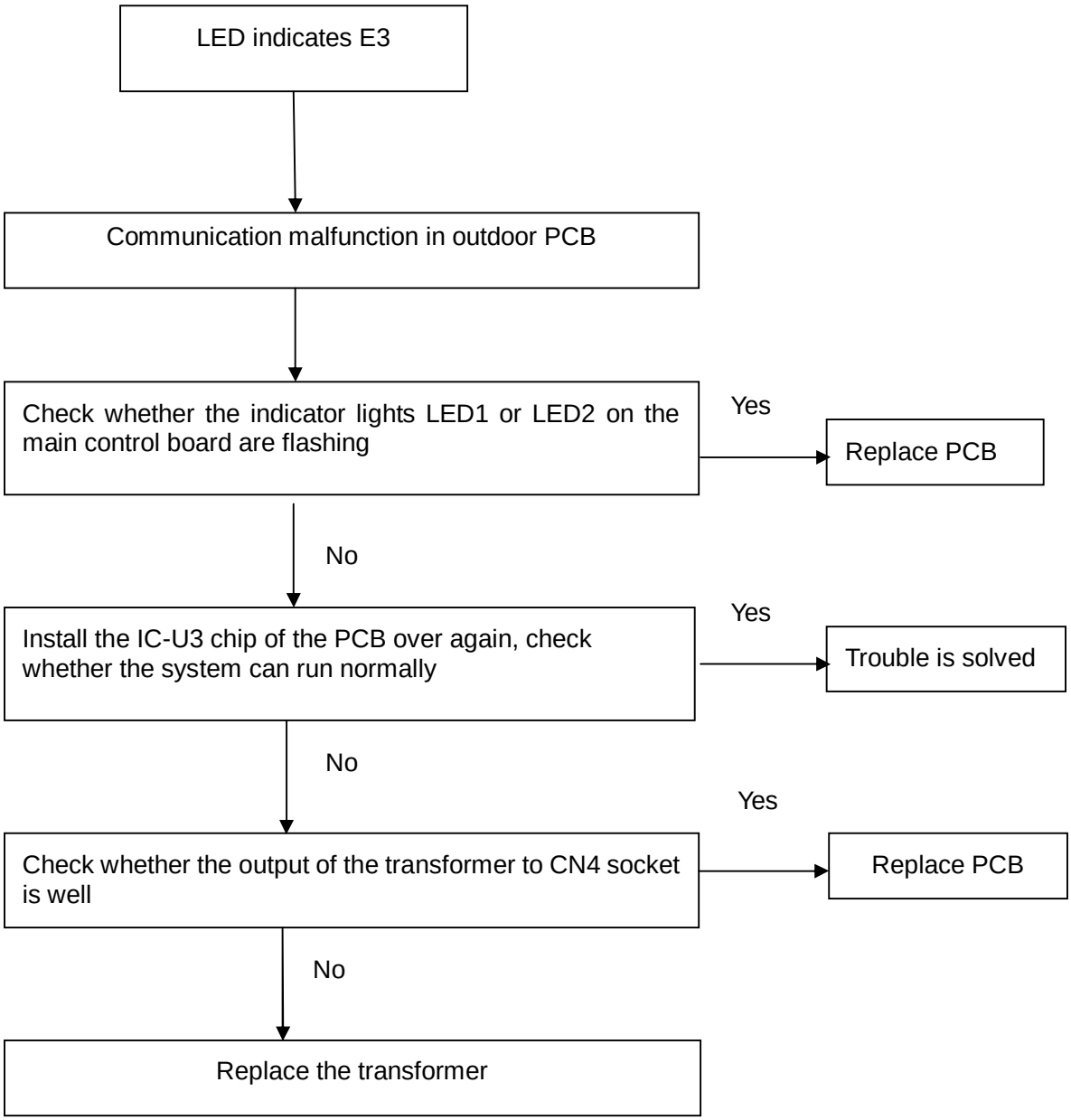
1. E0 malfunction



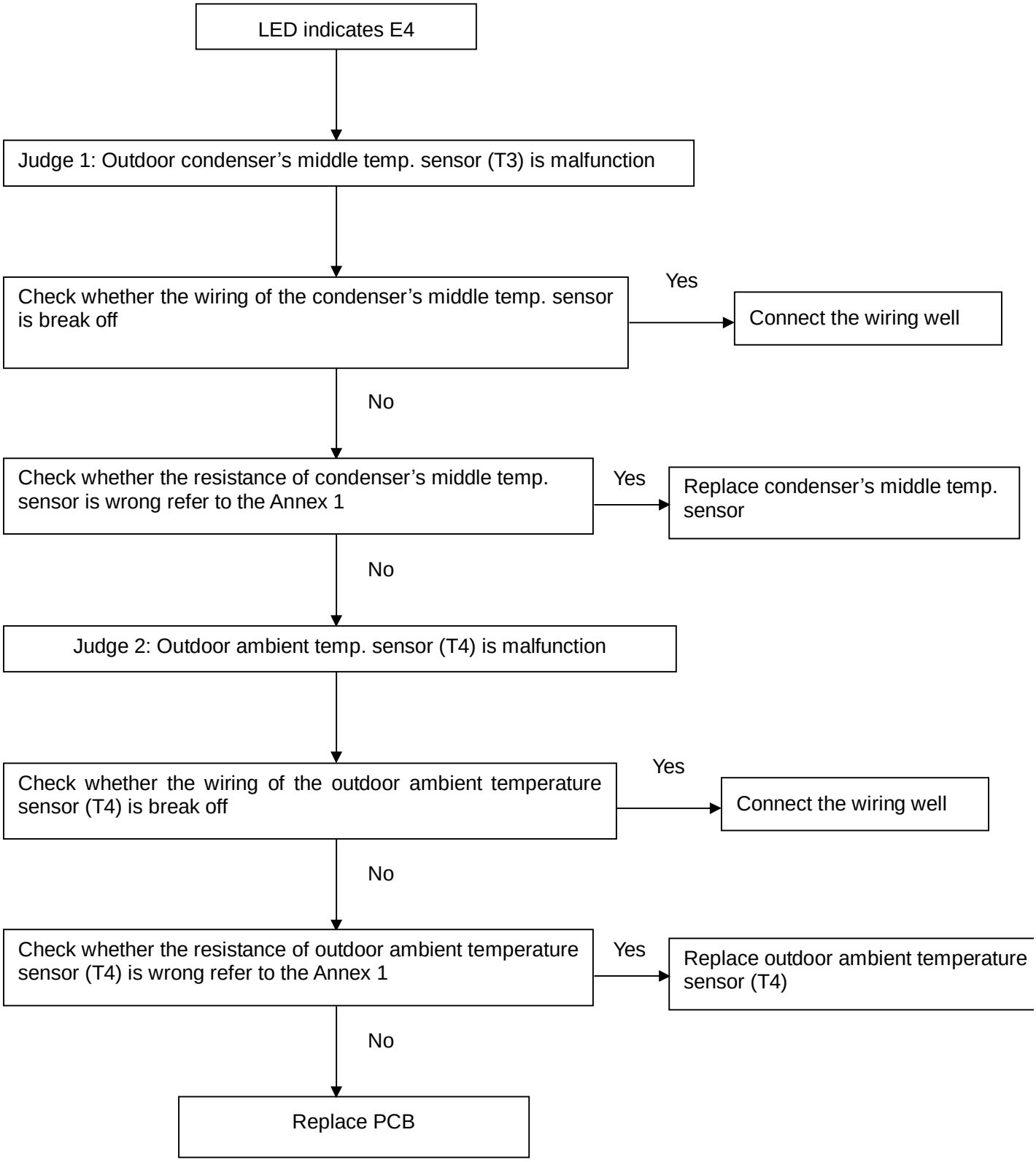
2. E2 malfunction


LED indicates E2
Communication malfunction between indoor/outdoor units
Judge 1: Check whether the indoor unit power is on
No
Turn on the indoor unit power
Yes
Judge 2: Check whether the signal wiring is shield cable or whether the shield cable is grounded
No
Adopt the shield cable/ shield cable grounded
Yes
Judge 3: Check whether the signal wiring between the indoor and outdoor units is wrong polarity?
Yes
Connect the signal wiring correctly
Judge 4: Check whether the signal wiring between the indoor and outdoor units is broken?
Yes
Replace the broken wiring
No
Indoor or outdoor main board is broken, replace the main board until the malfunction is disappear

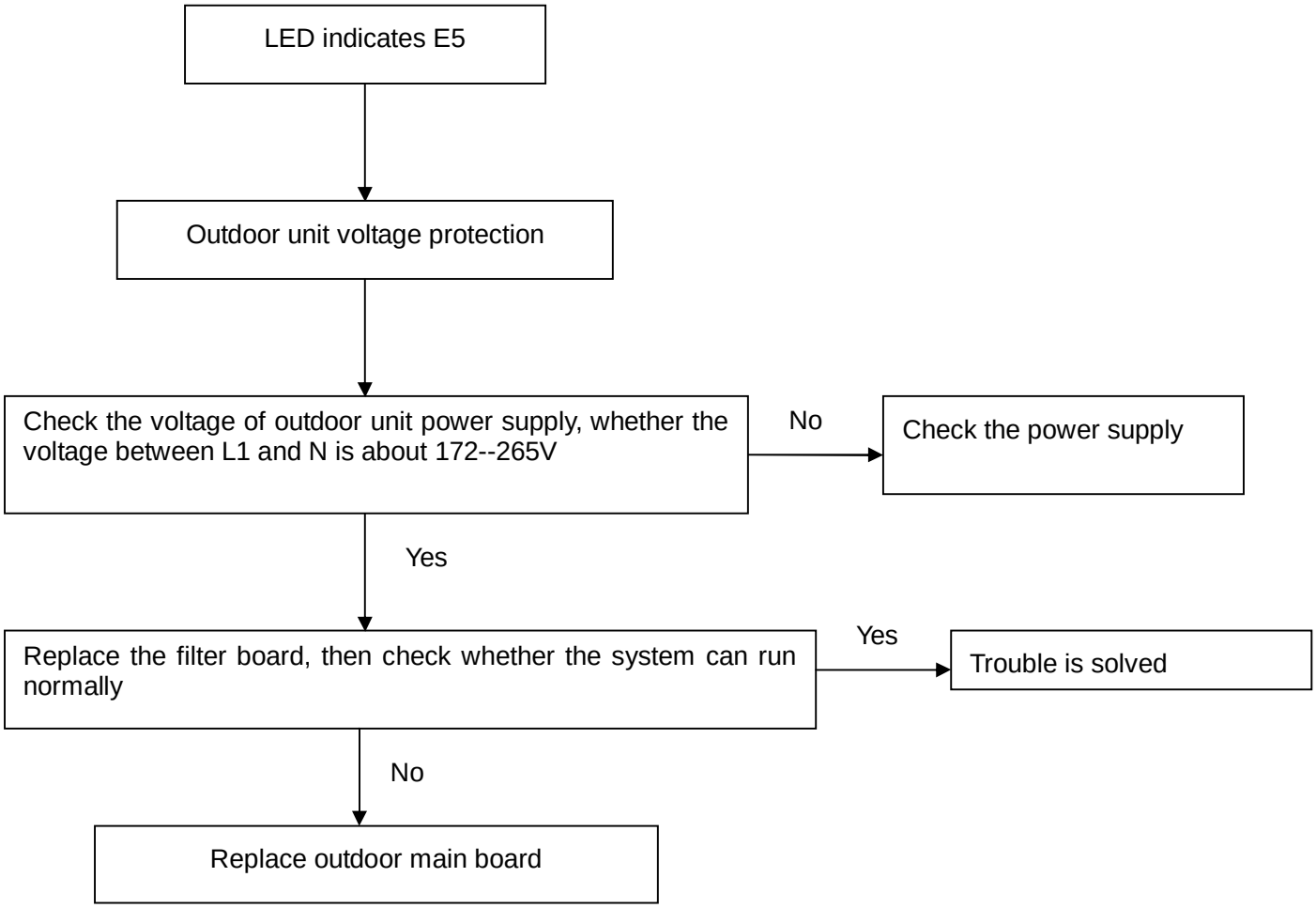
3. E3 malfunction


LED indicates E3
Communication malfunction in outdoor PCB
Check whether the indicator lights LED1 or LED2 on the main control board are flashing
Yes
Replace PCB
No
Install the IC-U3 chip of the PCB over again, check whether the system can run normally
Yes
Trouble is solved
No
Check whether the output of the transformer to CN4 socket is well
Yes
Replace PCB
No
Replace the transformer

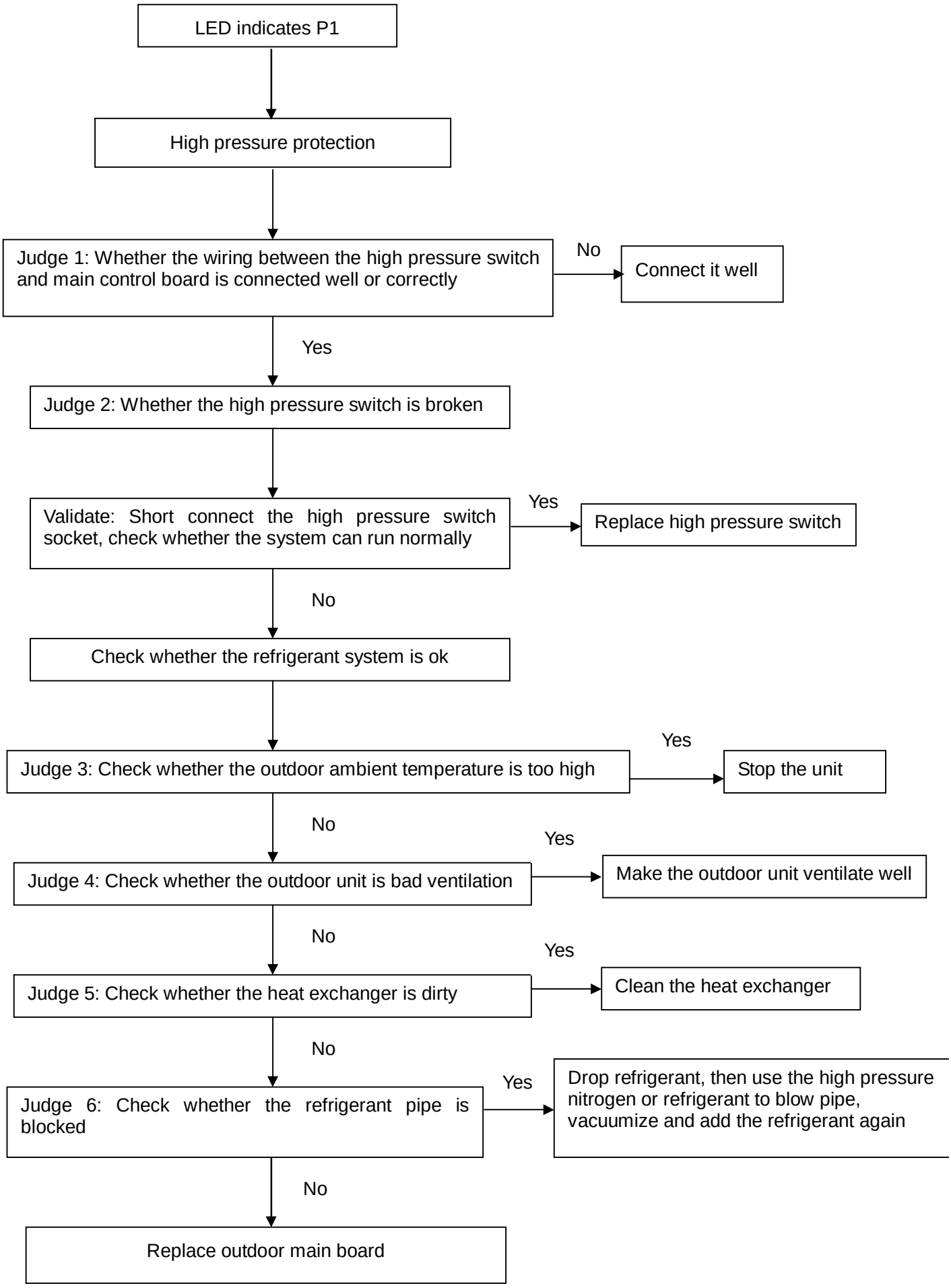
4. E4 malfunction


LED indicates E4
Judge 1: Outdoor condenser's middle temp. sensor (T3) is malfunction
Check whether the wiring of the condenser's middle temp. sensor is break off
Yes
Connect the wiring well
No
Check whether the resistance of condenser's middle temp. sensor is wrong refer to the Annex 1
Yes
Replace condenser's middle temp. sensor
No
Judge 2: Outdoor ambient temp. sensor (T4) is malfunction
Check whether the wiring of the outdoor ambient temperature sensor (T4) is break off
Yes
Connect the wiring well
No
Check whether the resistance of outdoor ambient temperature sensor (T4) is wrong refer to the Annex 1
Yes
Replace outdoor ambient temperature sensor (T4)
No
Replace PCB

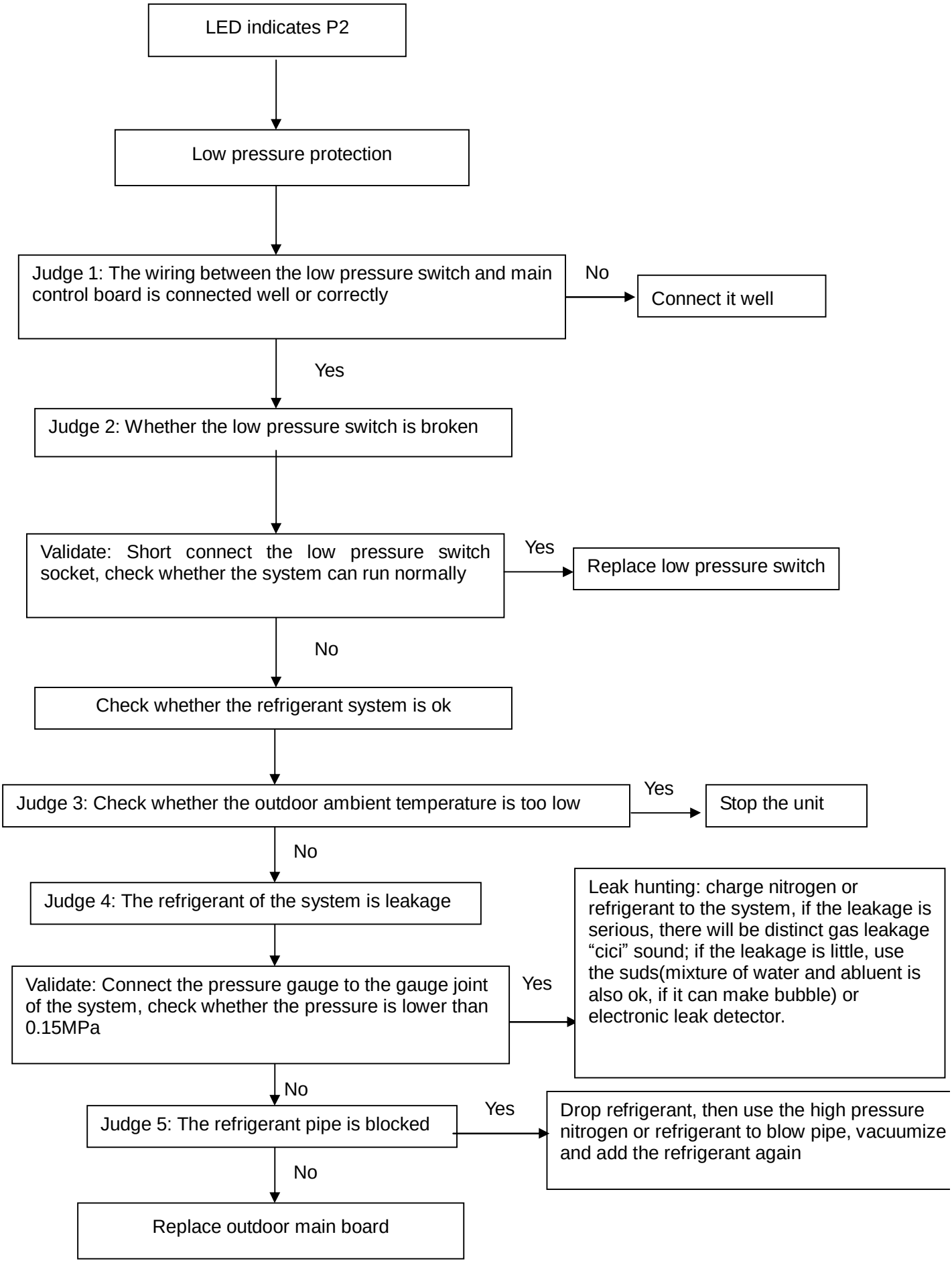
5. E5 malfunction


LED indicates E5
Outdoor unit voltage protection
Check the voltage of outdoor unit power supply, whether the voltage between L1 and N is about 172--265V
No
Check the power supply
Yes
Replace the filter board, then check whether the system can run normally
Yes
Trouble is solved
No
Replace outdoor main board

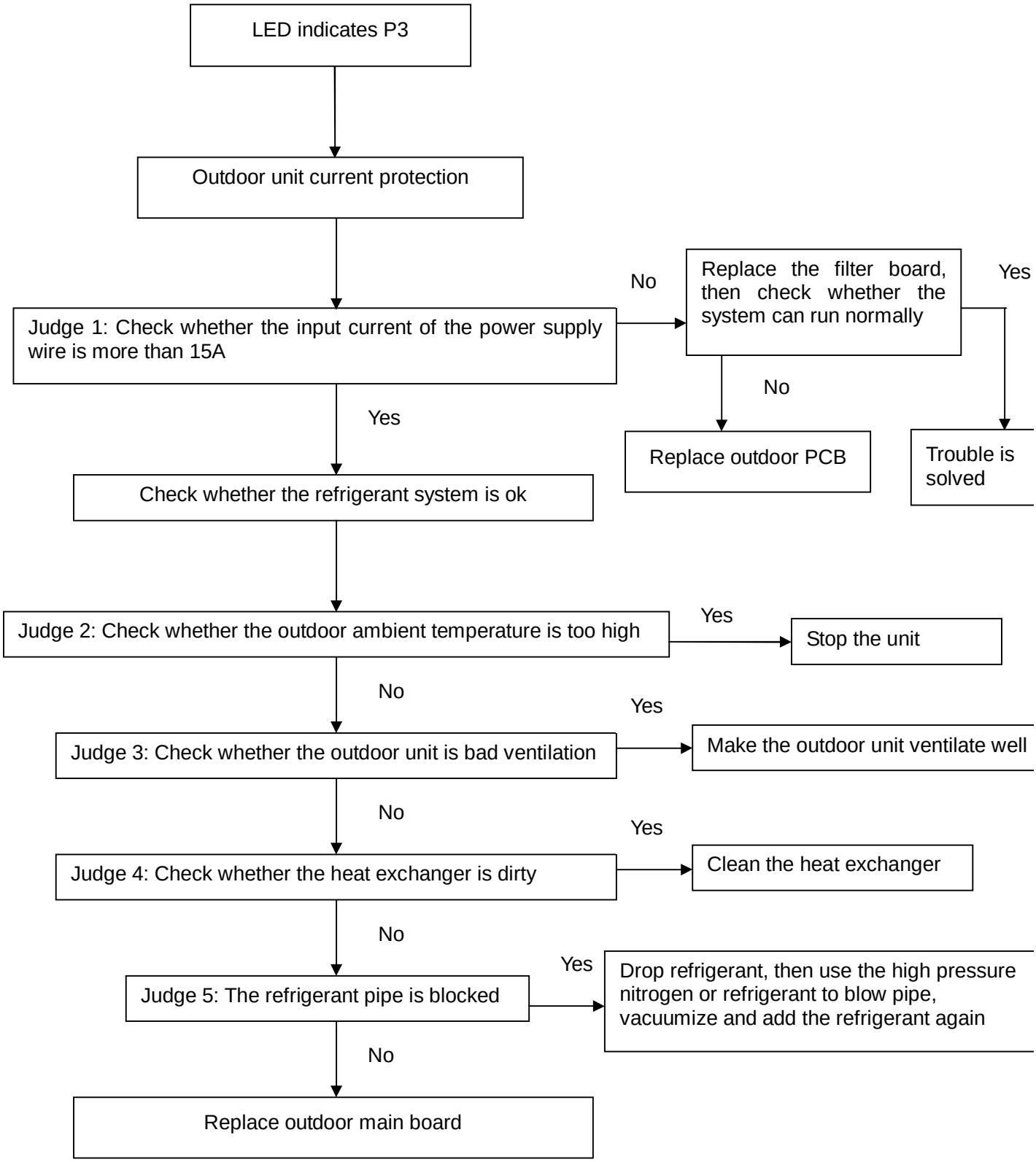
6. P1 malfunction


LED indicates P1
High pressure protection
Judge 1: Whether the wiring between the high pressure switch and main control board is connected well or correctly
No
Connect it well
Yes
Judge 2: Whether the high pressure switch is broken
Validate: Short connect the high pressure switch socket, check whether the system can run normally
Yes
Replace high pressure switch
No
Check whether the refrigerant system is ok
Judge 3: Check whether the outdoor ambient temperature is too high
Yes
Stop the unit
No
Judge 4: Check whether the outdoor unit is bad ventilation
Yes
Make the outdoor unit ventilate well
No
Judge 5: Check whether the heat exchanger is dirty
Yes
Clean the heat exchanger
No
Judge 6: Check whether the refrigerant pipe is blocked
Yes
Drop refrigerant, then use the high pressure nitrogen or refrigerant to blow pipe, vacuumize and add the refrigerant again
No
Replace outdoor main board

7. P2 malfunction

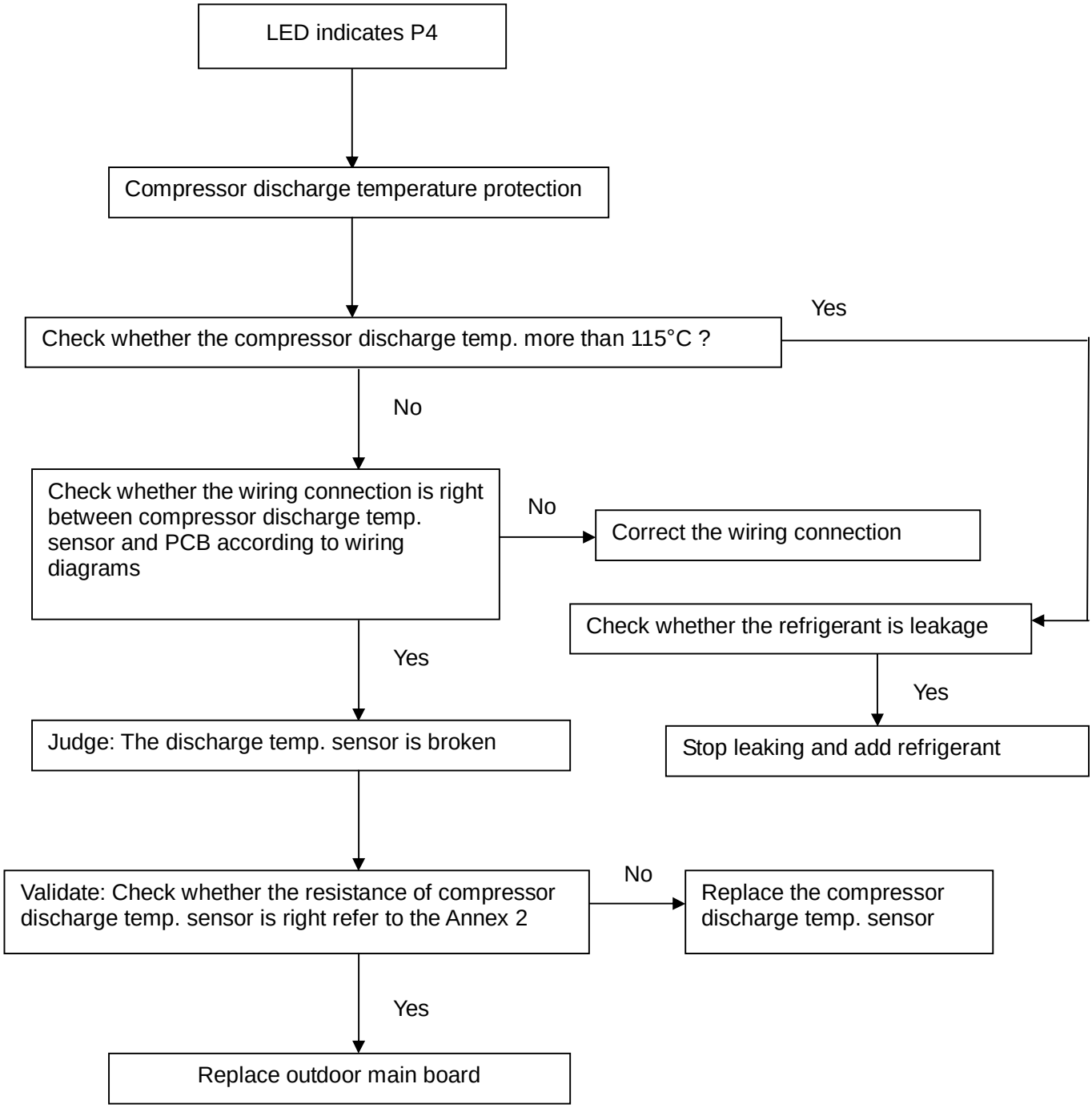

LED indicates P2
Low pressure protection
Judge 1: The wiring between the low pressure switch and main control board is connected well or correctly
No
Connect it well
Yes
Judge 2: Whether the low pressure switch is broken
Validate: Short connect the low pressure switch socket, check whether the system can run normally
Yes
Replace low pressure switch
No
Check whether the refrigerant system is ok
Judge 3: Check whether the outdoor ambient temperature is too low
Yes
Stop the unit
No
Judge 4: The refrigerant of the system is leakage
Validate: Connect the pressure gauge to the gauge joint of the system, check whether the pressure is lower than 0.15MPa
Yes
Leak hunting: charge nitrogen or refrigerant to the system, if the leakage is serious, there will be distinct gas leakage “cici” sound; if the leakage is little, use the suds(mixture of water and abluent is also ok, if it can make bubble) or electronic leak detector.
No
Judge 5: The refrigerant pipe is blocked
Yes
Drop refrigerant, then use the high pressure nitrogen or refrigerant to blow pipe, vacuumize and add the refrigerant again
No
Replace outdoor main board

8. P3 malfunction


LED indicates P3
Outdoor unit current protection
Judge 1: Check whether the input current of the power supply wire is more than 15A
No
Replace the filter board, then check whether the system can run normally
Yes
No
Replace outdoor PCB
Trouble is solved
Yes
Check whether the refrigerant system is ok
Judge 2: Check whether the outdoor ambient temperature is too high
Yes
Stop the unit
No
Judge 3: Check whether the outdoor unit is bad ventilation
Yes
Make the outdoor unit ventilate well
No
Judge 4: Check whether the heat exchanger is dirty
Yes
Clean the heat exchanger
No
Judge 5: The refrigerant pipe is blocked
Yes
Drop refrigerant, then use the high pressure nitrogen or refrigerant to blow pipe, vacuumize and add the refrigerant again
No
Replace outdoor main board

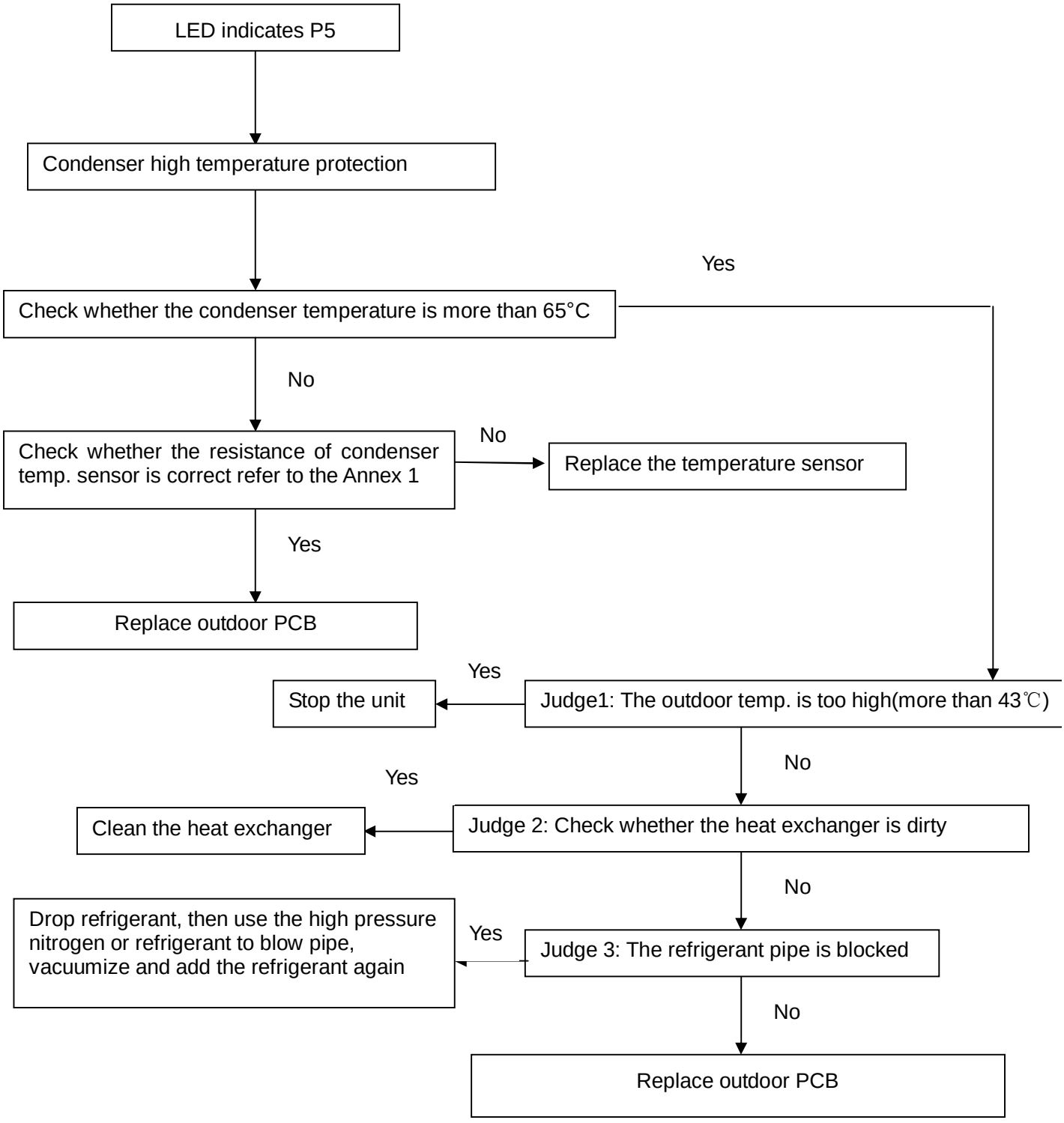
9. P4 malfunction

When compressor discharge temperature is more than 115°C, the unit will stop, and unit runs again when compressor discharge temperature is less than 90°C.

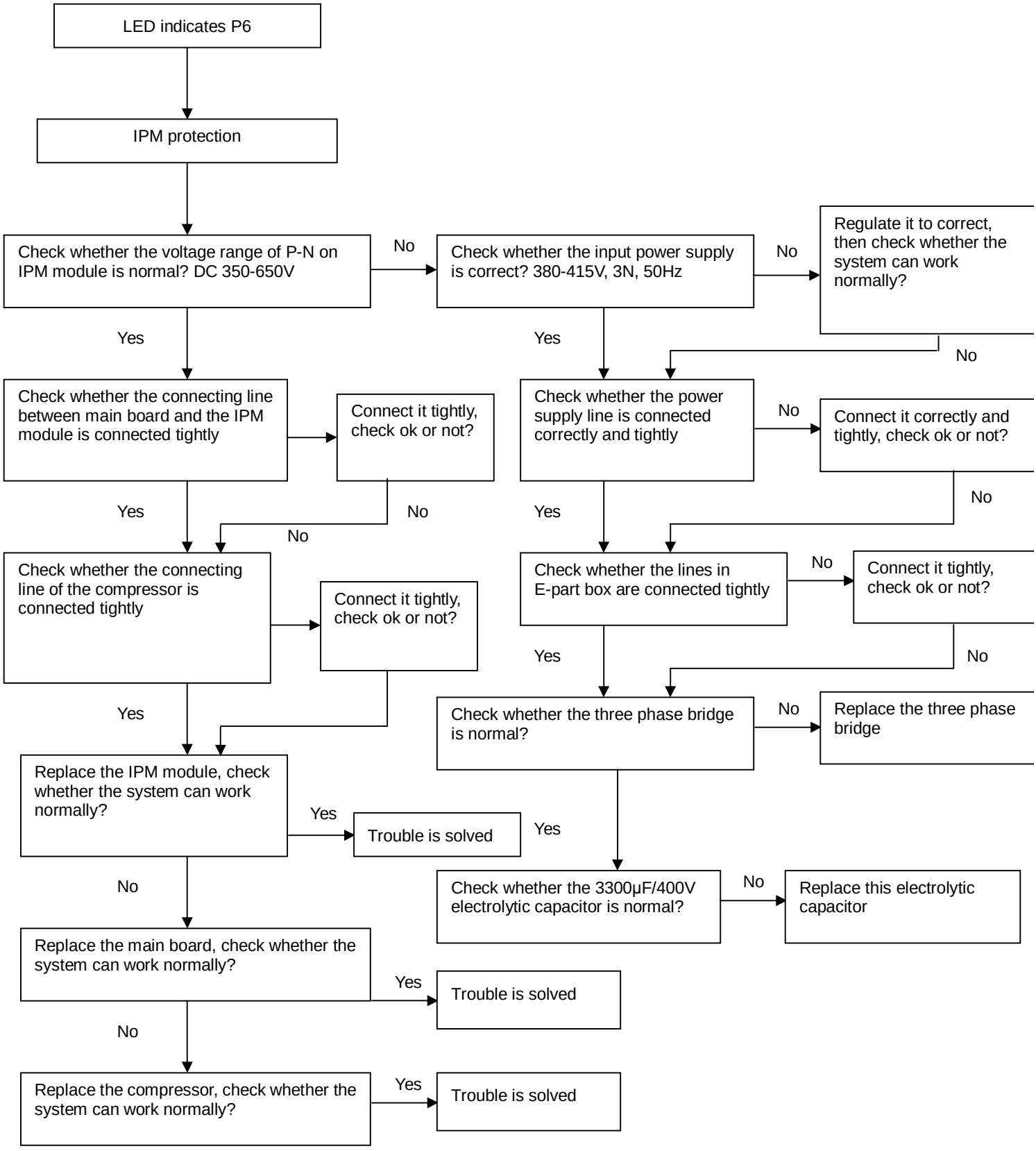

LED indicates P4
Compressor discharge temperature protection
Check whether the compressor discharge temp. more than 115°C ?
Yes
No
Check whether the wiring connection is right between compressor discharge temp. sensor and PCB according to wiring diagrams
No
Correct the wiring connection
Check whether the refrigerant is leakage
Yes
Yes
Judge: The discharge temp. sensor is broken
Stop leaking and add refrigerant
Validate: Check whether the resistance of compressor discharge temp. sensor is right refer to the Annex 2
No
Replace the compressor discharge temp. sensor
Yes
Replace outdoor main board

10. P5 malfunction

When condenser high temp. is more than 65°C, the unit will stop, and unit runs again when outdoor pipe temp. less than 52°C.


LED indicates P5
Condenser high temperature protection
Check whether the condenser temperature is more than 65°C
Yes
No
Check whether the resistance of condenser temp. sensor is correct refer to the Annex 1
No
Replace the temperature sensor
Yes
Replace outdoor PCB
Yes
Stop the unit
Judge1: The outdoor temp. is too high(more than 43℃)
No
Yes
Clean the heat exchanger
Judge 2: Check whether the heat exchanger is dirty
No
Drop refrigerant, then use the high pressure nitrogen or refrigerant to blow pipe, vacuumize and add the refrigerant again
Yes
Judge 3: The refrigerant pipe is blocked
No
Replace outdoor PCB

11. P6 malfunction

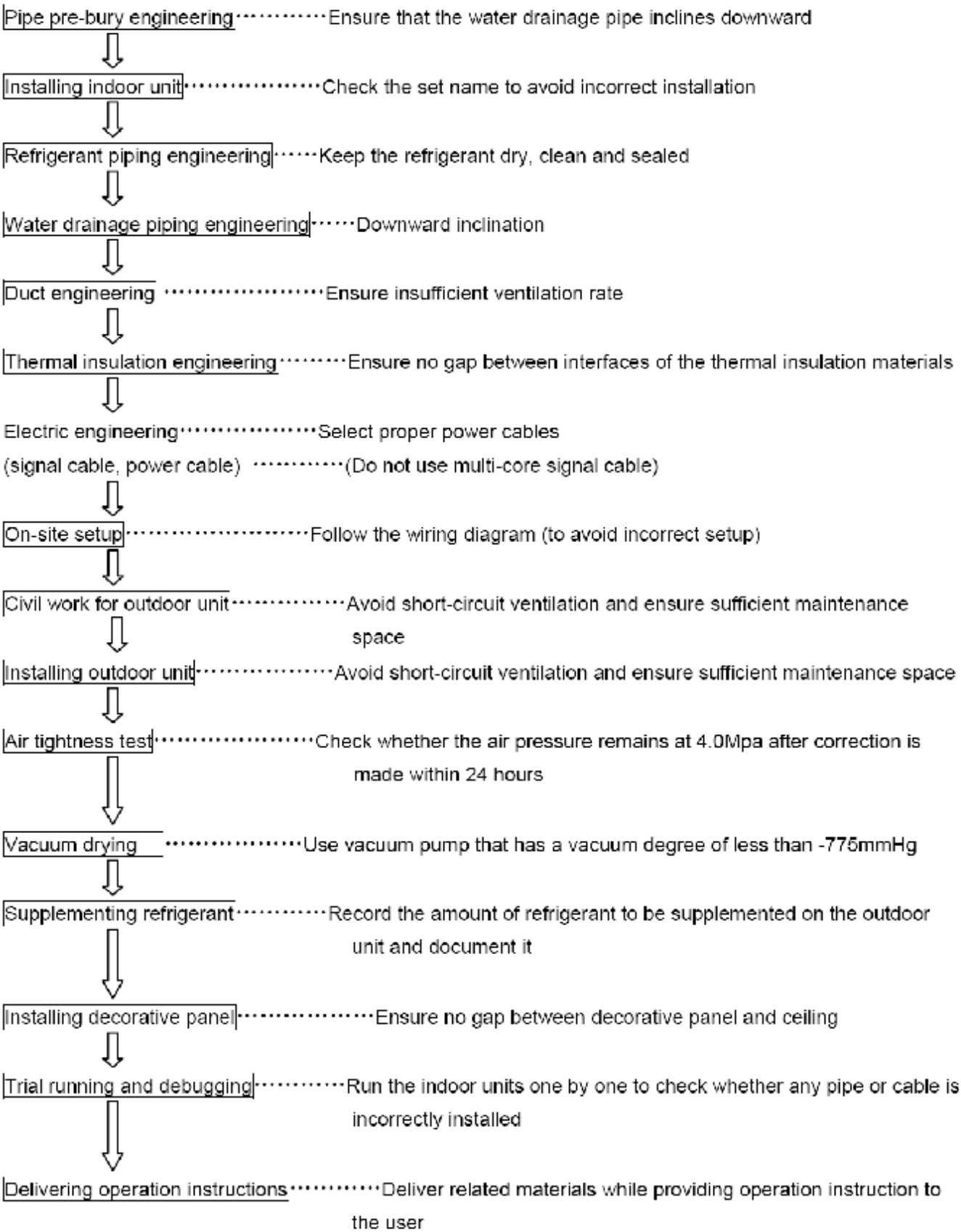

LED indicates P6
IPM protection
Check whether the voltage range of P-N on IPM module is normal? DC 350-650V
No
Check whether the input power supply is correct? 380-415V, 3N, 50Hz
No
Regulate it to correct, then check whether the system can work normally?
Yes
Yes
No
Check whether the connecting line between main board and the IPM module is connected tightly
Connect it tightly, check ok or not?
Check whether the power supply line is connected correctly and tightly
No
Connect it correctly and tightly, check ok or not?
Yes
No
No
Yes
No
Check whether the connecting line of the compressor is connected tightly
Connect it tightly, check ok or not?
Check whether the lines in E-part box are connected tightly
No
Connect it tightly, check ok or not?
Yes
No
Yes
Check whether the three phase bridge is normal?
No
Replace the three phase bridge
Replace the IPM module, check whether the system can work normally?
Yes
Trouble is solved
Yes
No
Check whether the 3300μF/400V electrolytic capacitor is normal?
No
Replace this electrolytic capacitor
Replace the main board, check whether the system can work normally?
Yes
Trouble is solved
No
Replace the compressor, check whether the system can work normally?
Yes
Trouble is solved

Part 4
Installation

1. Summarize of Installation 269
2. Installation of Indoor Unit 270
3. Outdoor Units Installation 270
4. Installation of Refrigerant Pipe 270
5. Processing & Installation of Drainage Pipe 270
6. Insulation Work 270
7. Electric Installation 270
8. Test Running 270
9. Precautions on Refrigerant Leakage 270

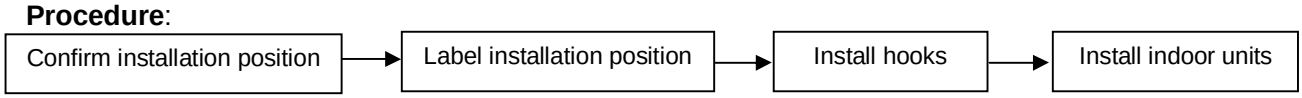
1. Summarize of Installation

1.1 Installation Procedure


Pipe pre-bury engineering ····· Ensure that the water drainage pipe inclines downward
Installing indoor unit ····· Check the set name to avoid incorrect installation
Refrigerant piping engineering ····· Keep the refrigerant dry, clean and sealed
Water drainage piping engineering ····· Downward inclination
Duct engineering ····· Ensure insufficient ventilation rate
Thermal insulation engineering ····· Ensure no gap between interfaces of the thermal insulation materials
Electric engineering ····· Select proper power cables
(signal cable, power cable) ····· (Do not use multi-core signal cable)
On-site setup ····· Follow the wiring diagram (to avoid incorrect setup)
Civil work for outdoor unit ····· Avoid short-circuit ventilation and ensure sufficient maintenance space
Installing outdoor unit ····· Avoid short-circuit ventilation and ensure sufficient maintenance space
Air tightness test ····· Check whether the air pressure remains at 4.0Mpa after correction is made within 24 hours
Vacuum drying ····· Use vacuum pump that has a vacuum degree of less than -775mmHg
Supplementing refrigerant ····· Record the amount of refrigerant to be supplemented on the outdoor unit and document it
Installing decorative panel ····· Ensure no gap between decorative panel and ceiling
Trial running and debugging ····· Run the indoor units one by one to check whether any pipe or cable is incorrectly installed
Delivering operation instructions ····· Deliver related materials while providing operation instruction to the user

1.2 Install indoor units

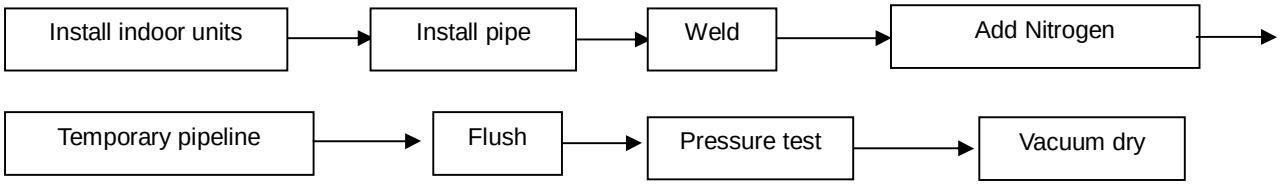
Procedure:



Note:(1) The hook must strong enough to sustain the weight of indoor unit.
(2) Check the models of indoor units before installation.
(3) Pay attention to the main devices, such as the pipeline.
(4) Hold enough places for maintenance.

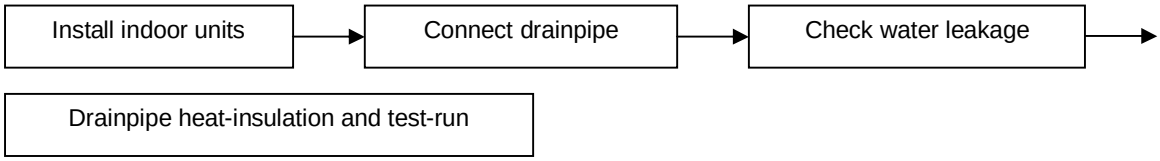
1.3 Refrigerant pipe

Procedure:



1.4 Drainage pipe

Procedure:



Note: It is no need to insulate the drainpipe if you choose the plastic pipe as drainpipe.

1.5 Electric wiring

1.5.1 Please select power supply for indoor unit and outdoor unit separately. Both indoor units and outdoor units should be grounded well.

1.5.2 The power supply should have specified branch circuit with leakage protector and manual switch.

1.5.3 Please put the connective wiring system between indoor unit and outdoor unit with refrigerant piping system together.

1.5.4 Power wiring should be done by professional electrician and complied with relevant National Electric Standard.

1.5.5 The power supply, leakage protector and manual of all the indoor units connecting to the same outdoor unit should be universal. (Please set all the indoor unit power supply of one system into the same circuit.)

1.5.6 It is suggested to use 3-core shielded wire as signal wire between indoor and outdoor units, multi-core wire is unavailable. Pay attention to the consistency. When signal wire parallel to the power wire, please keep enough distance (about 300mm at least) to prevent interference.

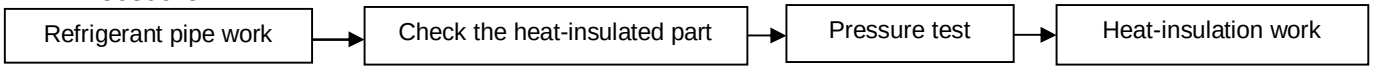
1.5.7 The power wire and signal wire can't be enlaced together.

1.6 Lay the indoor pipeline

Note: Collocate the air-outlet reasonably to prevent airflow short-circuit. Check the static pressure whether in the allowable range. The air filters should be easy to unpick and wash. Do pressure test on pipeline.

1.7 Heat-insulation

Procedure:



Note: For welding part, flare part and branch pipe, heat-insulation work must be done after finished the pressure test.

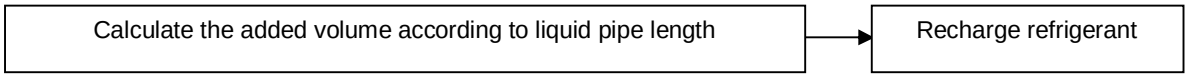
1.8 Install outdoor unit

Note: (1) Gutter must be set around the foundation to drain the condensation water.

(2) When installing outdoor units at the roof, please check the strength of the roof and pay attention not to destroy the waterproof of the roof.

1.9 Recharge refrigerant

Procedure:



Note: Please calculate the additional amount of refrigerant according to the formula that we supply to you, and the calculation result must be correct

1.10 Main points of test running and debugging

Please check the following issues before turning on the power:

(1). Vacuum dry:

Make sure the vacuum degree accord with our requirement about 10^{-5}.

(2). Wiring:

Includes the power wiring and communication wiring; Recheck the connection according to our corresponding wire diagrams. Especially, please remember our communication wire is polar; it means you must connect the communication wire correspondingly to the terminal block.

(3). Additional charge of refrigerant:

Recheck the calculation formula and recalculate the total recharge volume according to our supplied formula.

(4). Open the stop-valve of gas and liquid pipe with Allen key; Check leakage of stop-valve with soap water.

Please confirm whether the outdoor unit has been connected to the power for 12hr before start test running.

Test running:

Turn on all of the indoor units with cooling mode and set the temperature in 17degree with high fan speed first, after the system operated, test following operation parameters of the system, including indoor units and outdoor units parameters.

Indoor units' parameter:

(1). Air-inlet and air-outlet temperature of indoor units: generally, the temperature difference between them should be 10 degree according to and depended on the outdoor ambient temperature, we think it is normal.

(2). Fan speed of air-outlet of indoor units: Generally, for the duct type indoor units, the fan speed of air-outlet should be 3m/s roughly.

(3). Noise level: for the indoor units should be 40dB(A) roughly.

Outdoor units' parameter:

(1) Ambient temperature; Air-outlet of units; Discharge temperature of compressor; voltage; current; discharge pressure; air-inlet pressure; air-inlet pipe temperature and compressor current.

(2) After tested all of the cooling parameters, transfer the cooling mode to heating mode, then repeat the above process.

Note: Do not make forced running, otherwise the protection device will not work, which is very dangerous.

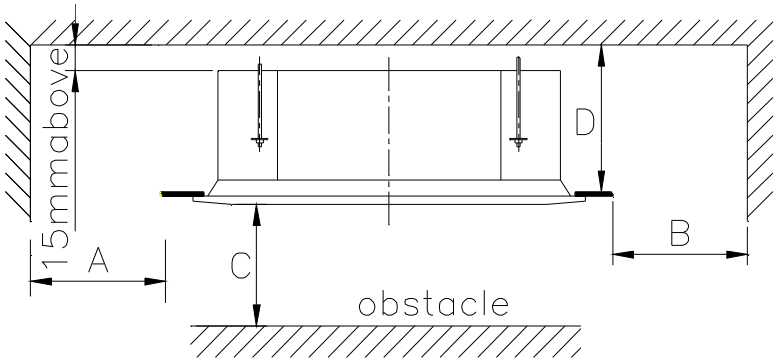
2. Installation of Indoor Unit

2.1 Hanging and Transportation

Please refer to Indoor unit Installation Manual.

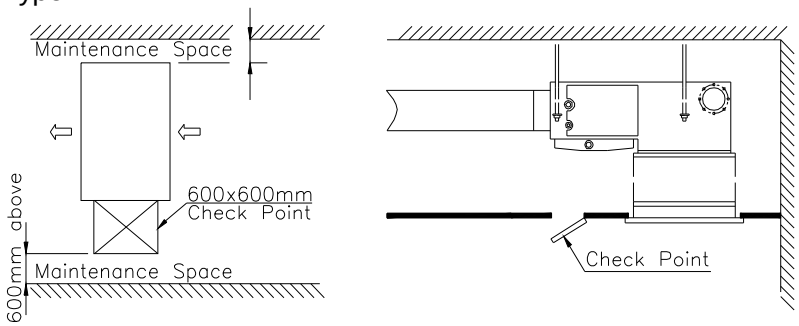
2.2 Required Installation Place

2.2.1 Cassette Type



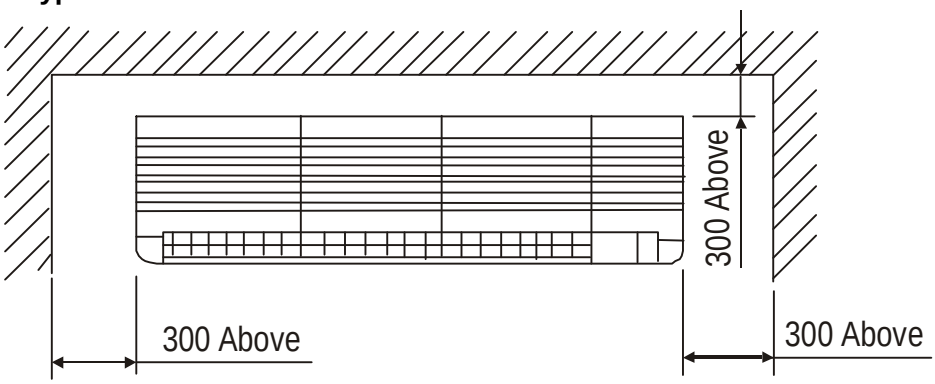
Type	A	B	C
One-way Cassette	1000mm above		
Four-way Cassette	1000mm above		2300mm above

2.2.2 Duct Type



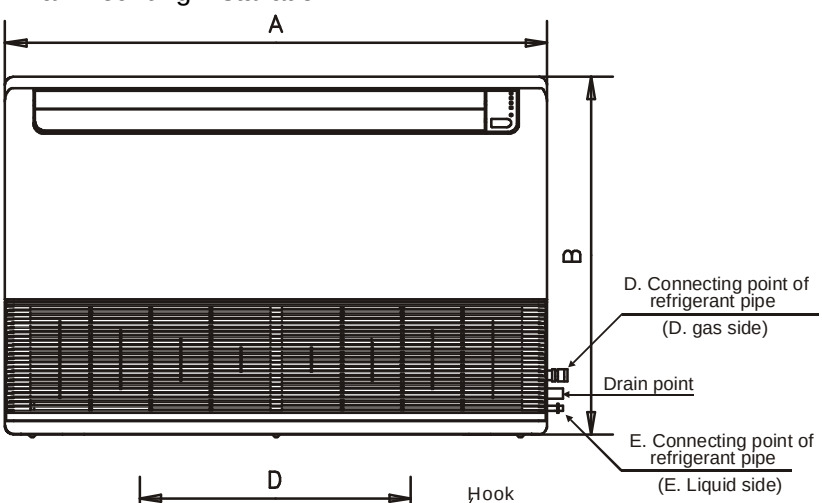
	A	B	C
One-way Cassette	1000mm above		
Four-way Cassette	1000mm above		2300mm above

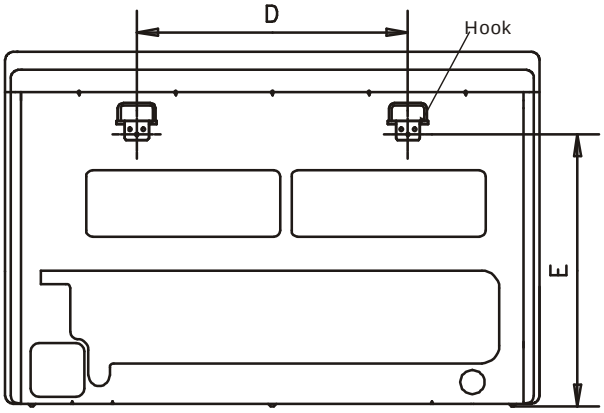
2.2.3 Wall Mounted Type



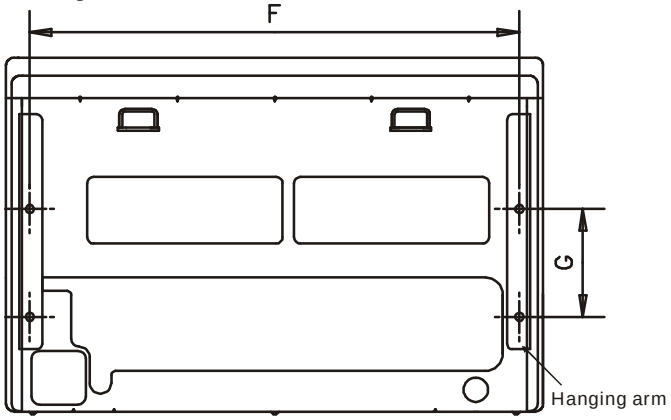
2.2.4 Ceiling and floor

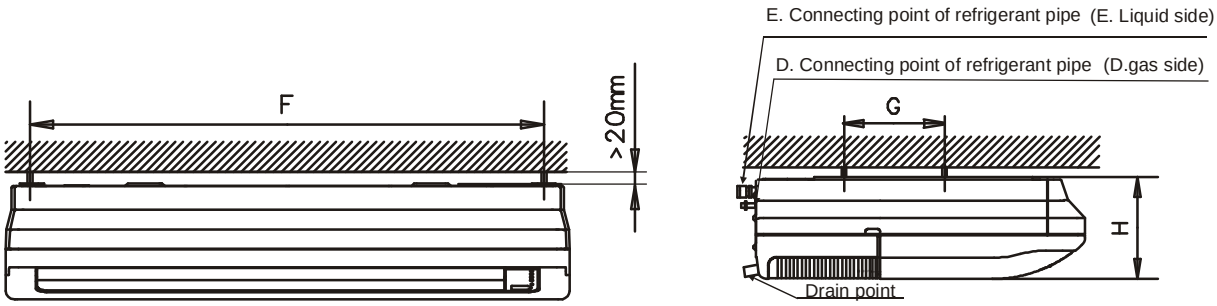
Wall mounting installation:



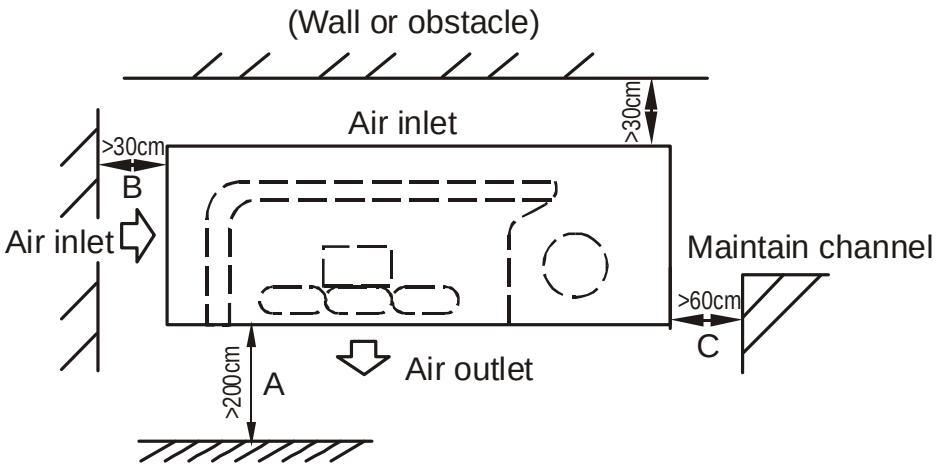


Ceiling installation:





Capacity (kW)	A	B	C	D	E	F	G	H
2.2-8.0 kW	990	660	206	505	506	907	200	203
9.0-11.2 kW	1280	660	206	795	506	1195	200	203
14.0 kW	1670	680	224	1070	450	1542	200	240


(Wall or obstacle)
Air inlet
>30cm
>30cm
B
Air inlet
Maintain channel
>60cm
C
>200cm
A
Air outlet

3. Outdoor Units Installation

3.1 Installation place

Please keep away from the following place, or malfunction of the machine may be caused:

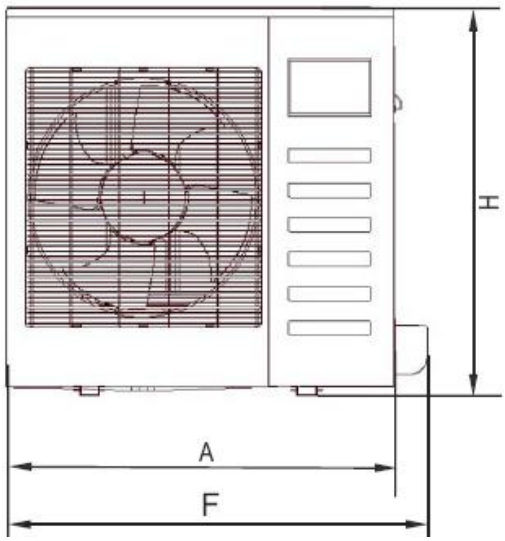
- There is combustible gas leakage.
- There is much oil (including engine oil) ingredient.
- There is salty air surrounding (near the coast)
- There is caustic gas (the sulfide, for example) existing in the air (near a hot spring)
- A place the heat air expelled out from the outdoor unit can reach your neighbor's window.
- A place that the noise interferes your neighbors every day life
- A place that is too weak to bear the weight of the unit
- Uneven place.
- Insufficient ventilation place.
- Near a private power station or high Frequency equipment.
- Install indoor unit, outdoor unit, power cord and connecting wire at least 1m away from TV set or radio to prevent noise or Install indoor unit, outdoor unit, power cord and connecting wire at least 1m away from TV set or radio to prevent noise or

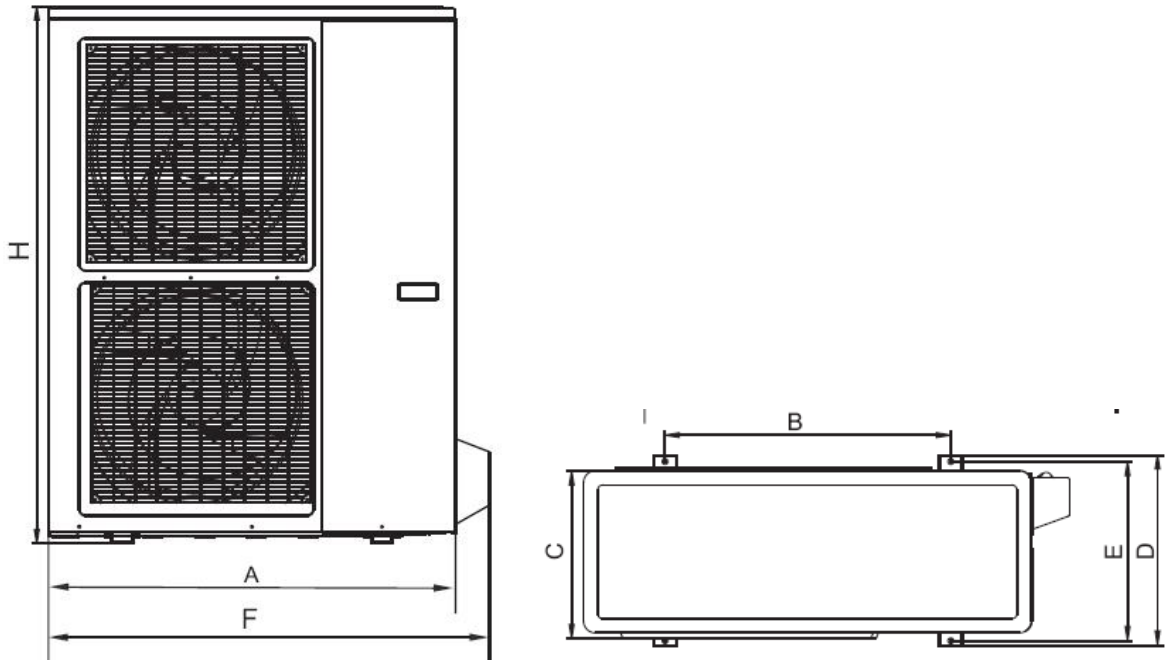
The insulation of the metal parts of the building and the air conditioner should comply with the regulation of National Electric Standard.

CAUTION

Keep indoor unit, outdoor unit, power supply wiring and transmission wiring at least 1 meter away from televisions and radios. This is to prevent image interference and noise in those electrical appliances. (Noise may be generated depending on the conditions under which the electric wave is generated, even if 1 meter is kept.)

3.2 Installation space



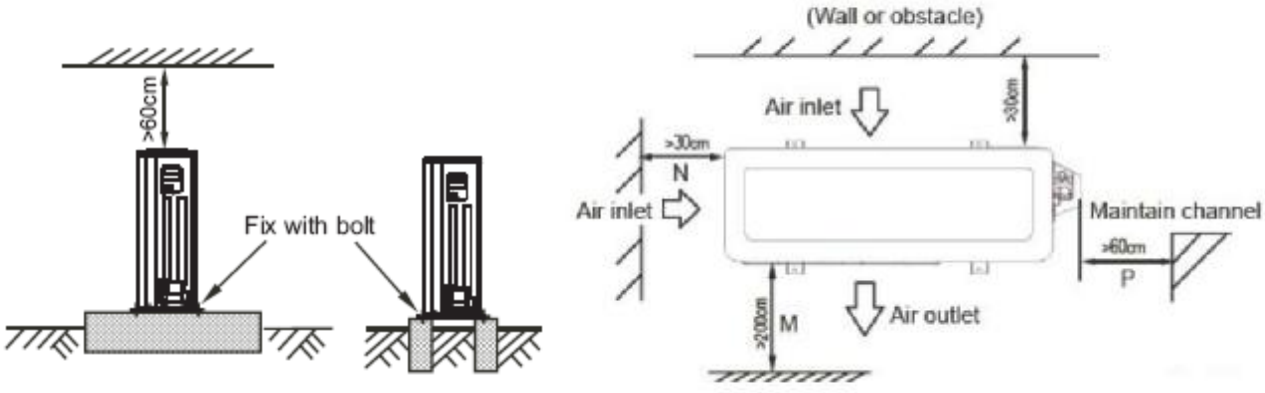


mm

MODEL	A	B	C	D	E	F	H
MDV-V105W/SN1	990	624	354	396	366	1075	966
MDV-V140W/SN1	940	600	360	400	376	1020	1245
MDV-V160W/SN1	940	600	360	400	376	1020	1245

3.3 Moving and installation

- Since the gravity center of the unit is not at its physical center, so please be careful when lifting it with a sling.
- Never hold the inlet of the outdoor unit to prevent it from deforming.
- Do not touch the fan with hands or other objects.
- Do not lean it more than 45, and do not lay it sidelong.
- Make concrete foundation according to the specifications of the outdoor units.*(refer to Fig.5-4)*
- Fasten the feet of this unit with bolts firmly to prevent it from collapsing in case of earthquake or strong wind.*(refer to Fig.5-4)*



NOTE

All the pictures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased (depend on model).The actual shape shall Prevail.

4. Installation of Refrigerant Pipe

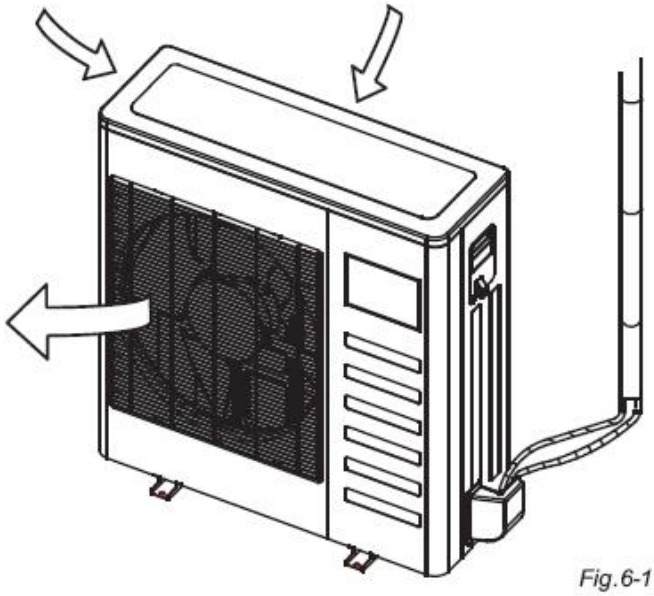


Fig.6-1

CAUTION

To prevent the refrigerant piping from oxidizing inside when welding, it is necessary to charge nitrogen, or oxide will chock the circulation system.

4.1 Select Sizes of Refrigerant Pipes and Materials

■Select refrigerant pipe

Table 6-1

Name	Pipe location	Number in the chart
Branch pipe	Directly connect to the indoor unit	3
Main pipe	No directly connect to the indoor unit	1,2

4.2 Connecting method

Outdoor Unit

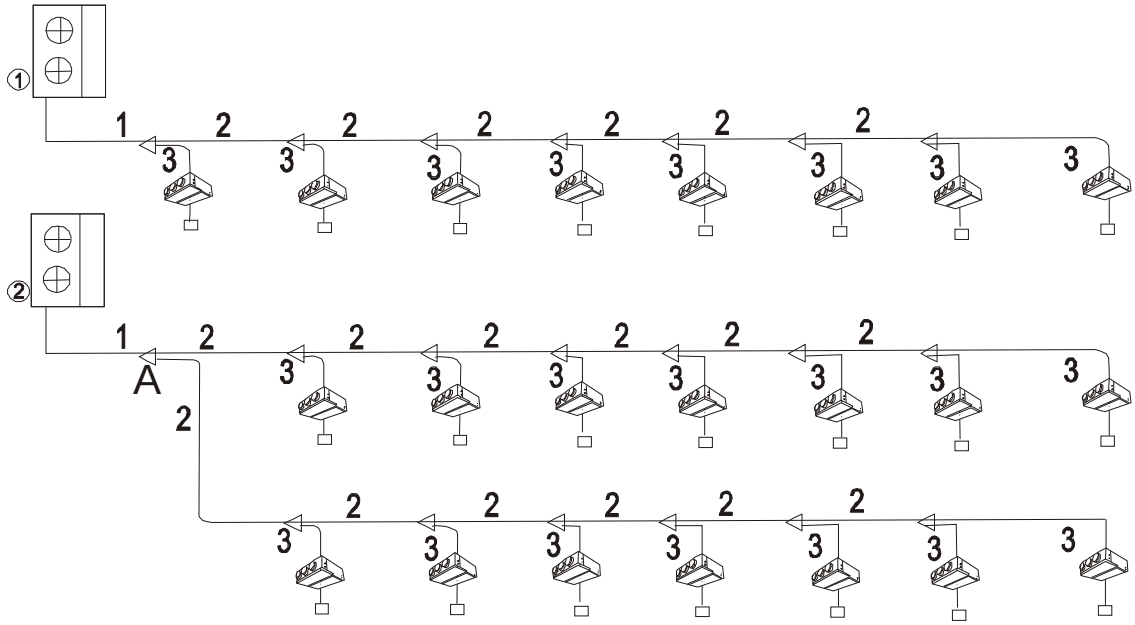


Fig.6-2

according to the total capacity of outdoor units**(see the table below)**.

Dimension and connecting method of the main pipes of outdoor side and first branch joint to indoor unit.

	gas side	liquid side
Dimensions of the main pipe	Φ16	Φ9.5

■Size of main pipe and corresponding branch joint and branch header

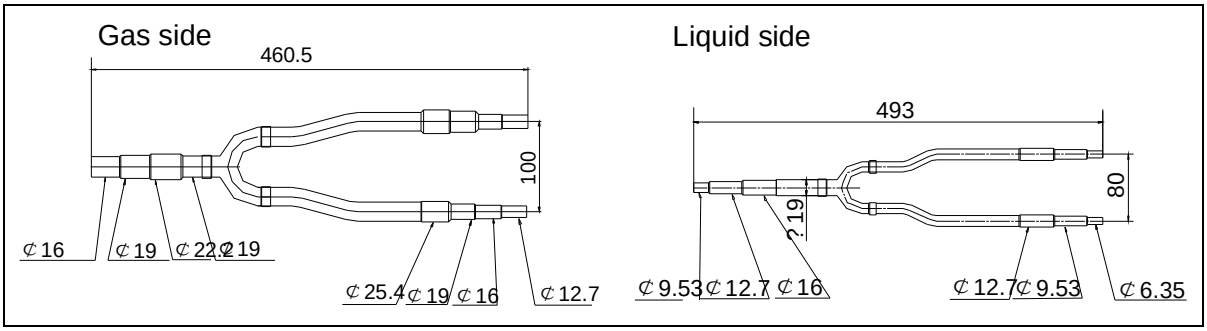
Table 6-2 (A: the total capacity of indoor units)

Refrigerant	A(kW)	Header branch pipe (Gas side/Liquid side)	Branch joint
R410A	A≤19.2	Φ16/Φ9.53	MDV-BY51N1

4.3 The dimension of branch joint

Please note: if no other note, the dimension marked in the picture is the inner dimension.

（1）MDV-BY51N1



NOTE

Branch header must be connected with indoor units directly, the further branch connection is not allowed.

I Select branch joint

Select the branch joint according to the total designed capacity of indoor units which it connects to. If this capacity is more than that of the outdoor unit, then select the connection according to the outdoor unit.

4.4 Select the pipe connected to indoor units.

According the dimensions of indoor unit's pipes to select the pipes which connected to indoor units. Please see the dimensions of indoor unit's pipes in the following table.

Table 6-3 (A: the total capacity of indoor units)

Refrigerant	A(kW)	Gas side	Liquid side
R410A	Wall mounted 2.2~5.6	Φ12.7(Flaring nut)	Φ6.35(Flaring nut)
	Four way cassette type 7.1~16.0	Φ16.0(Flaring nut)	Φ9.35(Flaring nut)
	Four way cassette compact type 2.2~5.6	Φ12.7(Flaring nut)	Φ6.35(Flaring nut)
	Duct type 2.2~3.6	Φ12.7(Flaring nut)	Φ6. 35 (Flaring nut)
	Duct type 4.5~16.0	Φ16.0(Flaring nut)	Φ9.53(Flaring nut)
	Ceiling and Floor 3.6	Φ12.7(Flaring nut)	Φ6. 35 (Flaring nut)
	Ceiling and Floor 4.5~16.0	Φ16.0(Flaring nut)	Φ9.53(Flaring nut)
	Floor-standing (Exposed), (Concealed)2.2~4.5	Φ12.7(Flaring nut)	Φ6. 35 (Flaring nut)
	Floor-standing (Exposed), (Concealed) 5.6~8.00	Φ16.0(Flaring nut)	Φ9.53(Flaring nut)

Table 6-4

Outdoor Unit	Capacity of Outdoor unit (horsepower)	Maximum Quantity of Indoor unit
36 outdoor unit	4	5
48 outdoor unit	5	6
60 outdoor unit	6	7

Table 6-5

Capacity ranking	Capacity(horsepower)	Capacity ranking	Capacity(horsepower)
2.2	0.8	7.1	2.5
2.8	1	8.0	3
3.6	1.25	10.5	4
4.5	1.7	14.0	5
5.6	2	16.0	6

■Connection method

Table 6-6

	Gas side	Liquid side
36 outdoor unit	Flaring	Flaring
48 outdoor unit	Flaring	Flaring
60 outdoor unit	Flaring	Flaring
Indoor unit	Flaring	Flaring
Branch pipe	Welding Flaring	Welding Flaring

4.5 Length and Drop Height Permitted of the Refrigerant piping

Table 6-7

			Permitted	Piping
Pipe Length	Total Pipe Length (Actual)		≤100m	L1+L2+L3+L4+L5+L6
	Maximum Piping(L)	Actual Length	≤45m	L1+L2+L3+L4+L5+L6+E
		Equivalent Length	≤50m	L3+L4+L5+L6+E
	Pipe length (from the first line branch to farthest indoor unit)		≤20m	/
Drop Height	Indoor Unit outdoor unit Drop Height	Outdoor Unit Up	20m	/
		Outdoor Unit Down	20m	/
	Indoor Unit to Indoor Unit Drop Height		8m	/

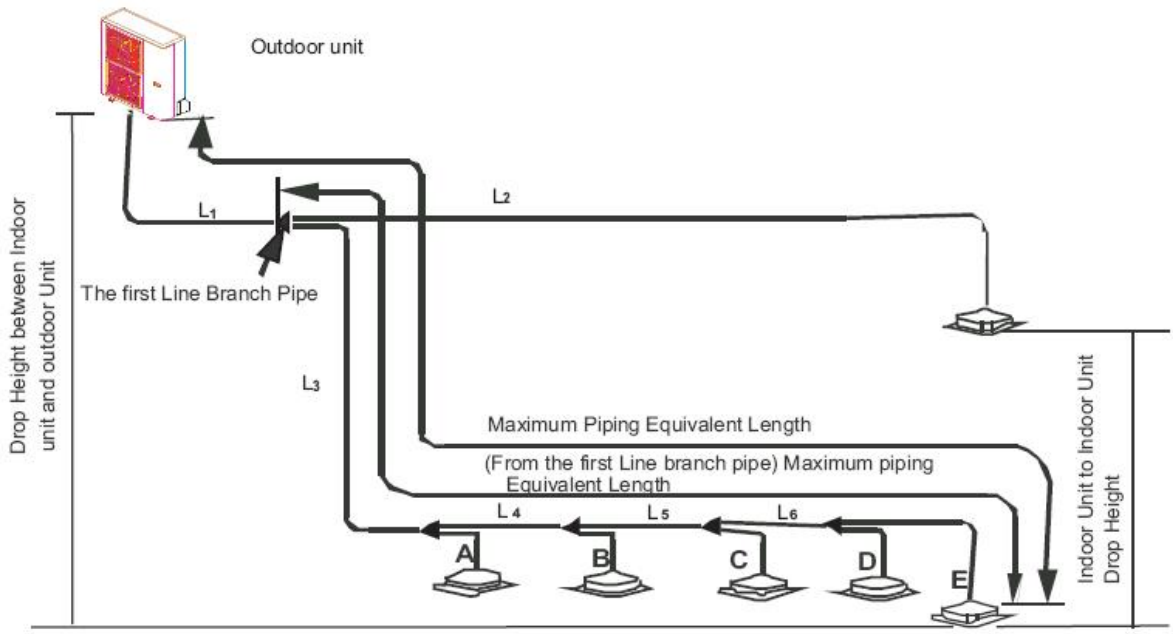


Fig.6-3

4. 6 Refrigerant Amount to be added

Calculate the added refrigerant according to the diameter and the length of the liquid side pipe of the outdoor unit/indoor unit connection.

Table 6-8

Liquid Side Piping Diameter	Refrigerant to be added Per meter Piping
Φ6.35	0.022kg
Φ9.53	0.060kg
Φ12.7	0.110kg
Φ15.9	0.190kg
Φ19.0	0.290kg
Φ22.0	0.380kg

NOTE

Additional refrigerant volume of branch pipe is 0.1kg per item (Consider the liquid side of branch pipe only)

5. Processing & Installation of Drainage Pipe

5.1 Gradients and Supporting

5.1.1 Keep the drainpipe sloping downwards at a gradient of at least 1/100. Keep the drainpipe as short as possible and eliminate the air bubble.

5.1.2 The horizontal drainpipe should be short. When the pipe is too long, a prop stand must be installed to keep the gradient of 1/100 and prevent bending. Refer to the following table for the specification of the prop stand.

	Diameter	Distance between the prop stands
Hard PVC pipe	25~40mm	1.5~2m

5.1.3 Precautions

5.1.3.1 The diameter of drainpipe should meet the drainage requirement at least.

5.1.3.2 The drainpipe should be heat-insulated to prevent atomization.

5.1.3.3 Drainpipe should be installed before installing indoor unit. After powering on, there is some water in water-receiver plate. Please check if the drain pump can act correctly.

5.1.3.4 All connection should be firm.

5.1.3.5 Wipe color on PVC pipe to note connection.

5.1.3.6 Climbing, horizontal and bending conditions are prohibited.

5.1.3.7 The dimension of drainpipe can't less than the connecting dimension of indoor drainpipe.

5.1.3.8 Heat-insulation should be done well to prevent condensation.

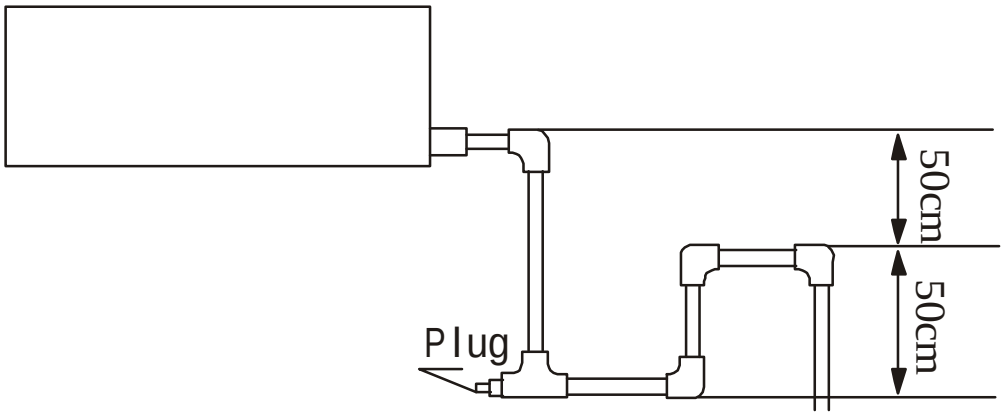
5.1.3.9 Indoor units with different drainage type can't share one convergent drainpipe.

5.2 Drainpipe Trap

5.2.1 If the pressure at the connection of the drainpipe is negative, it needs to design drainpipe trap.

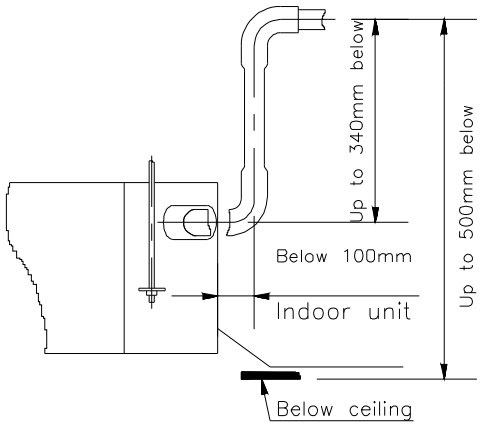
5.2.2 Every indoor unit needs one drainpipe trap.

5.2.3 A plug should be designed to do cleaning.



5.3 Upward drainage (drain pump)

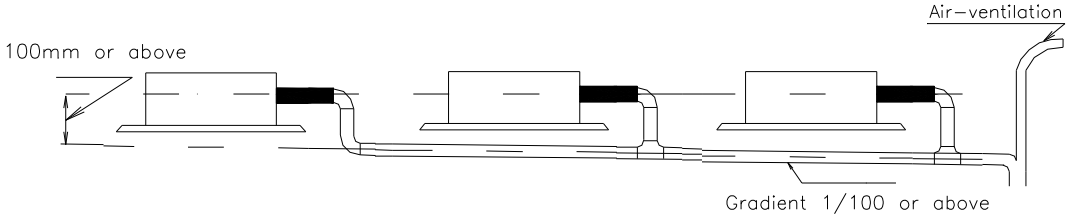
To ensure the gradient 1/100, the drainpipe can be lifted to 340mm. After upwards, place downwards, or it will cause malfunction to drain pump.



5.4 Convergent drainage

5.4.1 The number of indoor units should be as small as possible to prevent the traverse main pipe overlong.

5.4.2 Indoor unit with drain pump and indoor unit without drain pump should be in different drainage system.



5.4.3 Selection the diameter

Number of connecting indoor units→Calculate drainage volume→Select the diameter

Calculate allowed volume =Total cooling capacity of indoor units (HP) × 2 (l/ hr)

Drain pipe	Allowed volume(lean 1/100) (l/ hr)	I.D. (mm)	Thick
Hard PVC	∽≤14	Φ25	3.0
Hard PVC	14＜∽≤88	Φ30	3.5
Hard PVC	88＜∽≤334	Φ40	4.0
Hard PVC	175＜∽≤334	Φ50	4.5
Hard PVC	334＜∽	Φ80	6.0

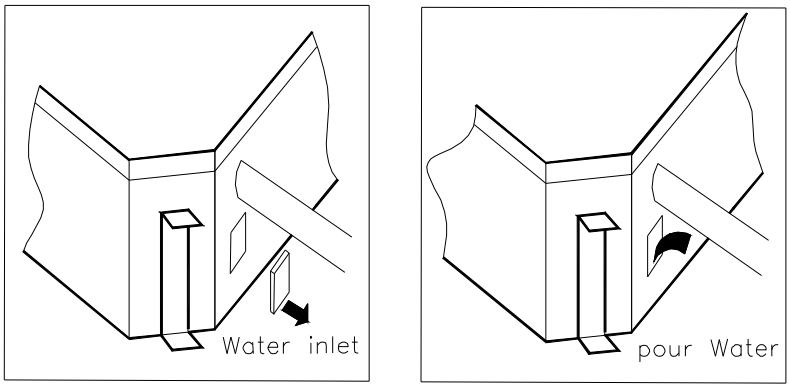
5.5 Drainage test

5.5.1 Drainage without drain pump

After finishing drainpipe installation, pour some water into the water plate to check if the water flows smoothly.

5.5.2 Drainage with drain pump

5.5.2.1 Poke the Water Level Switch, remove the cover, and use water pipe to pour 2000ml water into the water plate through the water inlet.



5.5.2.2 Turn on the power to cooling operation. Check the pump's operation and switch on the Water Level Switch. Check the pump's sound and look into the transparent hard pipe in the outlet at the same time to check if the water can discharge normally.

5.5.2.3 Stop the air conditioner running, turn off the power, and put back the cover.

- Stop the air conditioner. After 3 minutes, check if it has abnormity. If the collocation of drainpipes is illogical, the water will flow back overfull, which will cause the alarm lamp flashes, even circumfluence from the water plate.
- Keep on pouring water until it gives an alarm signal for high water level, check if the pump drains water at once. If the water level can't fall below the alarmed water level after 3 minutes, the air conditioner will stop (means this indoor unit stops, stand-by, but the outdoor unit still work if there is capacity requirement). Turn off the power and drain the remained water, then turn on the air conditioner.

Note: the drain stopper in the main water plate is for maintenance. Stuff up the drain stopper to prevent water leakage.

6. Insulation Work

6.1 Insulation material and thickness

6.1.1 Insulation material

Insulation material should adopt the material, which is able to endure the pipe's temperature: no less than 70℃ in the high-pressure side, no less than 120℃ in the low-pressure side (For the cooling type machine, no requirements at the low-pressure side.)

Example: Heat pump type----Heat-resistant Polyethylene foam (withstand above 120℃)

Cooling only type---- Polyethylene foam (withstand above 100℃)

6.1.2 Thickness choice for insulation material

Insulation material thickness is as follows:

	Pipe diameter (mm)	Adiabatic material thickness
Refrigerant pipe	Φ6.4—Φ25.4	10mm
	Φ28.6—Φ38.0	15mm
	Φ38.0—Φ67.0	20mm
Drainage pipe	Inner diameterΦ20—Φ32	6mm

6.2 Refrigerant pipe insulation

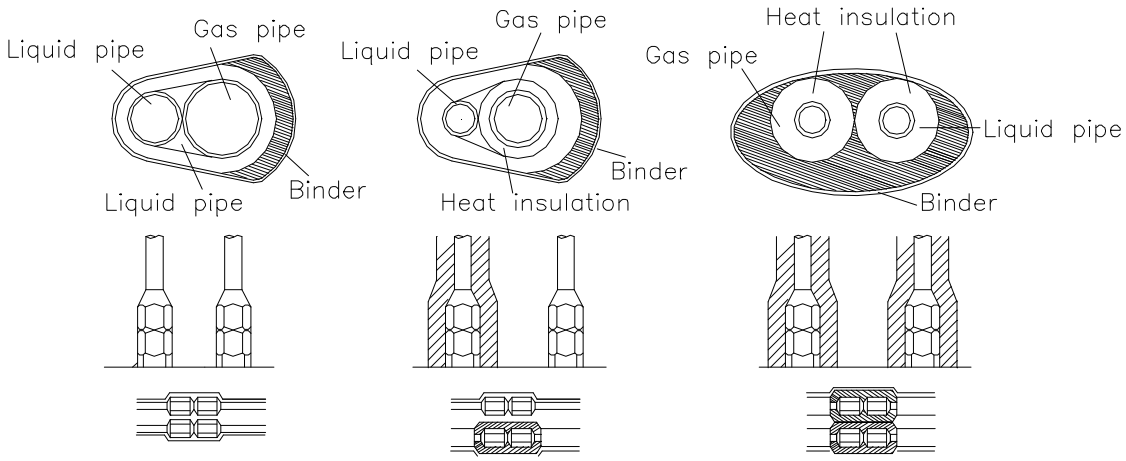
6.2.1 Work Procedure

6.2.1.1 Before laying the pipes, the non-jointing parts and non-connection parts should be heat insulated.

6.2.1.2 After the gas proof test is eligible, the jointing area, expanding area and the flange area should be heat insulated

6.2.2 Insulation for non-jointing parts and non-connection parts

Wrong	Right	
Gas pipe and liquid pipe should not be put together to insulate	Insulate the gas pipe (Cooling only)	Insulate the gas pipe and the liquid pipe

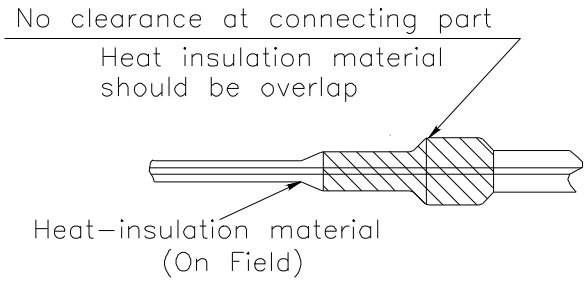


For construction convenience, before laying pipes, use insulation material to insulate the pipes to be deal with, at the same time, at two tips of the pipe, remain some length not to be insulated, in order to be welded and check the leakage after laying the pipes.

6.2.3 Insulate for the jointing area, expanding area and the flange area

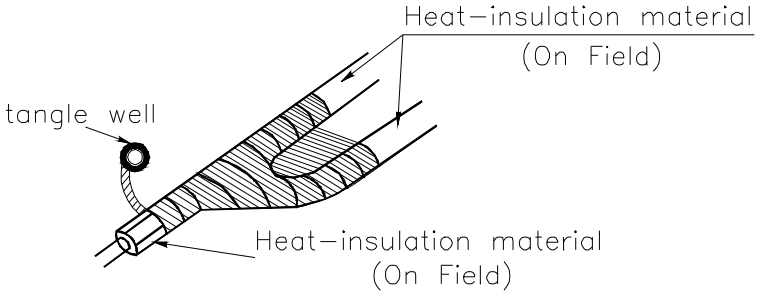
6.2.3.1 Insulate for the jointing area, expanding area and the flange area should be done after checking leakage of the pipes

6.2.3.2 Make sure there's no clearance in the joining part of the accessorial insulation material and local preparative insulation material.



6.2.4 Enswathe disposal

After insulation of the pipes, do the enswathe disposal with binding belt, make sure it's tight.



6.3 Drainage pipe insulation

The connection part should be insulated, or else water will be condensing at the non-insulation part.

6.4 Note

6.4.1 The jointing area, expanding area and the flange area should be heat insulated after passing the pressure test

6.4.2 The gas and liquid pipe should be heat insulated individually, the connecting part should be heat insulated individually.

6.4.3 Use the attached heat-insulation material to insulate the pipe connections (pipes' tie-in ,expand nut) of the indoor unit.

7. Electric Installation

CAUTION

- Please select power source for indoor unit and outdoor unit respectively
- The power supply has specified branch circuit with leakage protector and manual switch.
- Indoor unit connect with power supply which is 220-240V~50Hz. Outdoor unit connect with power supply which is 380-415V~ 50Hz (Please set all the indoor unit power of one system into the same branch circuit.)
- Please put the connective wire system between indoor unit and outdoor unit with the refrigerant system together.
- Use 3-core screened wire as indoor and outdoor control wire.
- The installation should comply with relevant national electric standard.
- Power wiring should be engaged by specialized electrician.

7.1 Outdoor Unit Wiring

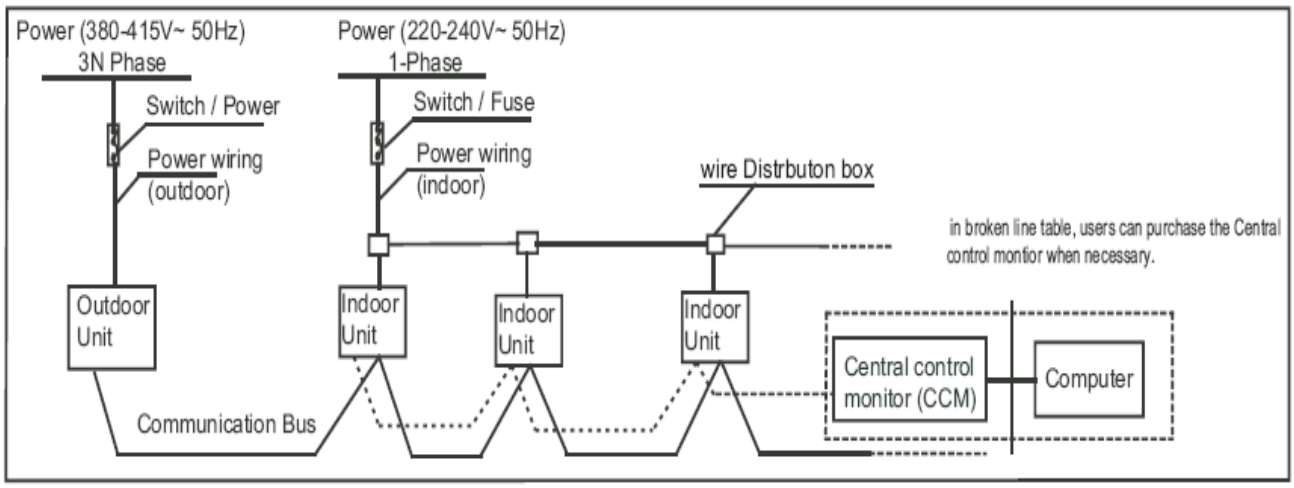
■The Specification of Power

Table 7-1

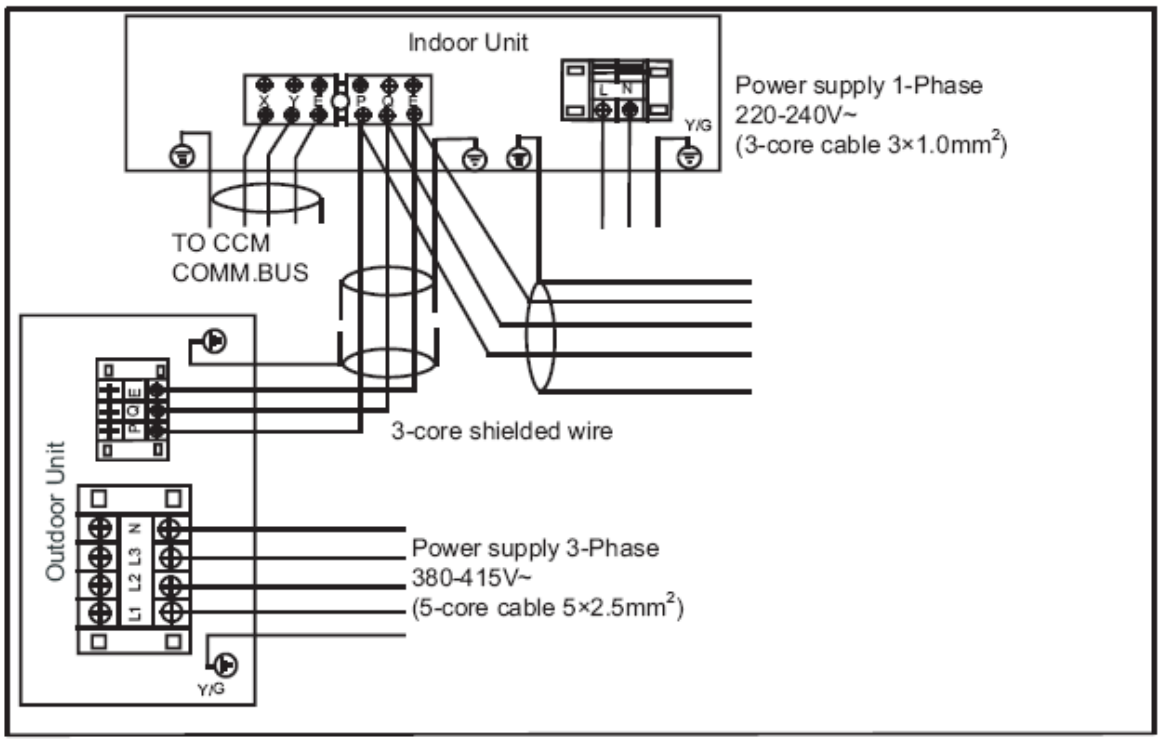
Capacity (Btu/h)		36000~60000
Outdoor Unit power	Phase	3N phase
	Frequency and Voltage	380-415V~ 50Hz
	Power Wiring(mm^2)	5-core X 2.5
Circuit Breaker/Fuse (A)		40/25
Indoor unit/Outdoor unit Signal wire (Weak electric signal) (mm^2)		3-core shielded wire 3X0.5

CAUTION

A disconnection device having an air gap contact separation in all active conductors should be incorporated in the fixed wiring according to the National Wiring Regulation.



For 36000-60000Btu/h Fig.7-1



For 36000-60000Btu/h Fig.7-2

CAUTION

The reserved function is indicated in broken line table, users can select it when necessary.

ındoor/Outdoor Unit Signal Wire

Connect the wire according to their numbers.

Wrong connection may cause malfunction.

Wiring Connection

Seal the wiring connection with the insulation material, or the condensing dew will be caused.

NOTE

The air-conditioners can connect with Central Control Monitor (CCM). Before operation, please wiring correctly and set system the air-conditioners can connect with Central Control Monitor (CCM). Before operation, please wiring correctly and set system

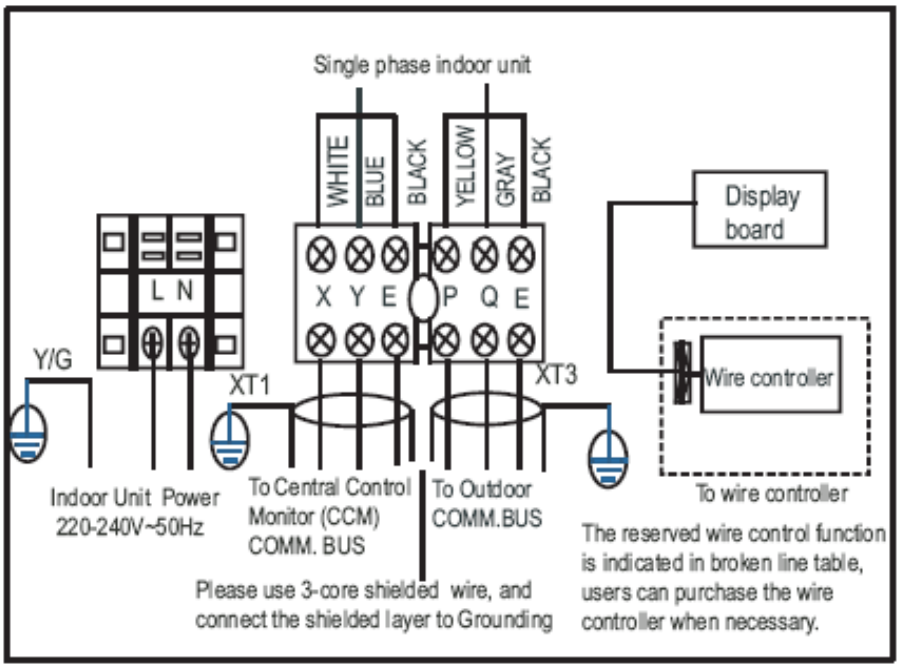


Fig.7-3

7.2 Indoor Unit Wiring

- Power Supply

Table 7-2

Capacity (Btu/h)		36000~60000
indoor Unit power	Phase	1- phase
	Frequency and Voltage	220-240V~ 50Hz
	Power Wiring(mm^2)	3-core×1.0
Circuit Breaker/Fuse (A)		15/15
Indoor unit/Outdoor unit Signal wire (Weak electric signal) (mm^2)		3-core shielded wire 3X0.5

1. Signal wire is 3-core, polarized wire. Use 3-core shield wire to prevent interference. The grounding method now is grounding the closed end of the shield wire and opening (insulating) at the end. Shield is to be grounded.
2. The control between outdoor unit and indoor unit is BUS type. An address is set on field during the installation.

CAUTION

The wire diameter and continuous length is under the condition that the voltage vibration is within 2%. If the continuous length is exceed showing value, choose the wire diameter follow relevant regulation.

Indoor unit power supply wiring

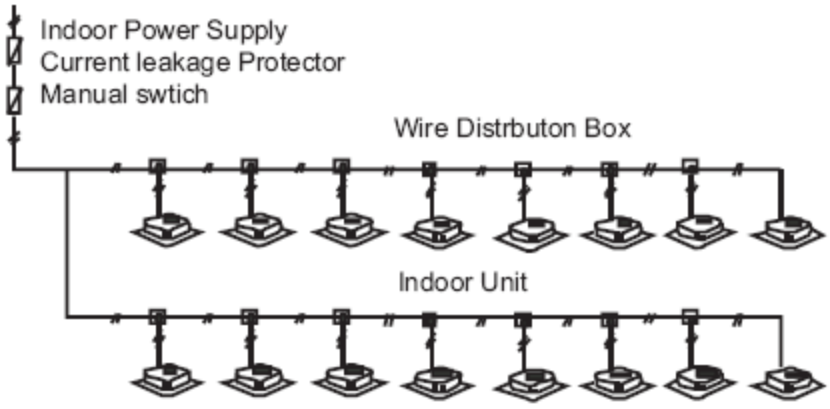


Fig.7-4

CAUTION

1. Refrigerant piping system, indoor unit-indoor unit connection signal wires and indoor unit-outdoor unit connection signal wire are in the same system.
2. When power cord is parallel with signal wire, please put them into separate wire distribution pipes, and leave a proper distance. (Reference distance: It is 300mm when current capacity of power cord is less than 10A, or 500mm when 50A).

- Please use shield wire as indoor unit/outdoor unit signal wire.

Indoor/Outdoor unit signal wire wiring

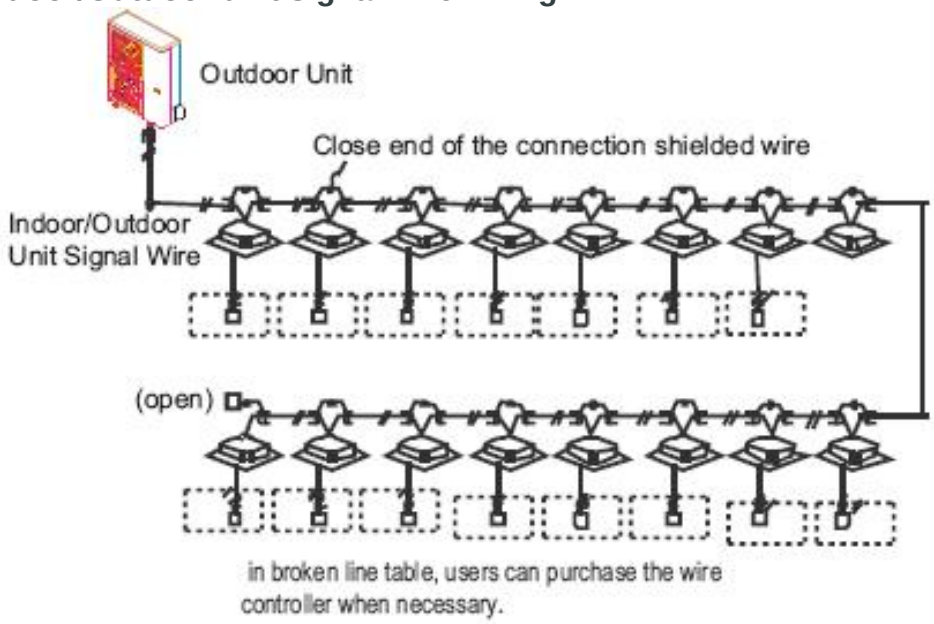


Fig.7-5

8. Test Running

Operate according to "gist for test running" on the electric control box cover.

CAUTION

- Test running can not start until the outdoor unit has been connected to the power for 12hr.
- Test running can not start until all the valves are affirmed open.
- Never make the forced running. (Or the protector sits back, danger will occur.)

9. Precautions on Refrigerant Leakage

This air conditioner (A/C) adopts innocuous and nonflammable refrigerant. The locating room of the A/C should big enough that any refrigerant leakage is unable to reach critical thickness. So certain essential action can be taken on time.

- Refrigerant critical thickness: 0.44[kg/m] for R410A.

Confirm the critical thickness through follow steps, and take necessary actions.

1. Calculate the sum of the charge volume (A[kg]) Total Refrigerant volume of 10HP=factory refrigerant volume + superaddition
2. Calculate the indoor cubage (B[m]) (as the minimum cubage.
3. Calculate the refrigerant thickness

$$\frac{A[kg]}{B[m^3]} \leqslant \text{critical thickness}$$

Counter measure against over high thickness

1. Install mechanical ventilator to reduce the refrigerant thickness under critical level. (ventilate regularly)
2. Install leak alarm facility related to mechanical ventilator if you can not regularly ventilate.

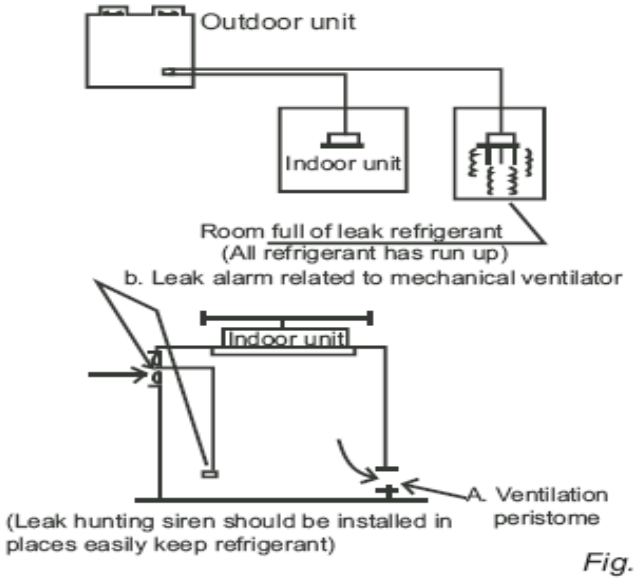

Outdoor unit
Indoor unit
Room full of leak refrigerant
(All refrigerant has run up)
b. Leak alarm related to mechanical ventilator
Indoor unit
A. Ventilation peristome
(Leak hunting siren should be installed in places easily keep refrigerant)

Fig. 9-1

NOTE

Please press “constraint cool” button to carry out refrigerant recycling process. Keep the low pressure above 0.2MPa; otherwise compressor may be burnt out.

Part 5
Control

1. Wireless remote controller R51/E..... 292
2. Wireless remote controller R05/BGE..... 294
3. Optional Controller..... 299

1. Wireless remote controller R51/E

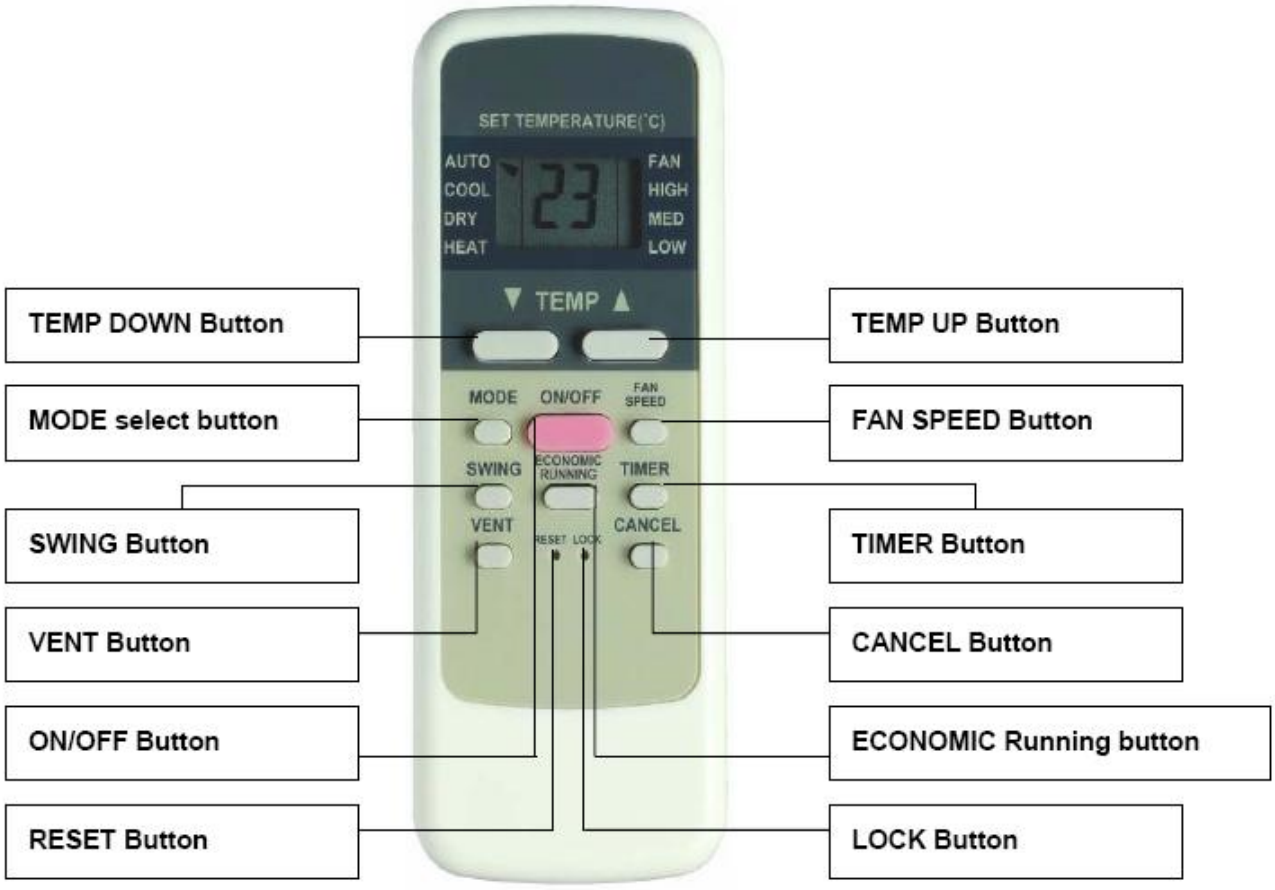
There‘s one model R51/E for hereinafter type:
MDV-D28Q4/BN1、MDV-D36Q4/BN1、MDV-D45Q4/BN1、MDV-D56Q4/N1、MDV-D71Q4/N1、MDV-D80Q4/N1、MDV-D90Q4/N1、MDV-D112Q4/N1、MDV-D22T2/CN1、MDV-D28T2/CN1、MDV-D36T2/CN1、MDV-D45T2/CN1、MDV-D56T2/CN1、MDV-D71T2/CN1、MDV-D80T2/CN1、MDV-D90T2/CN1、MDV-D112T2/CN1、MDV-D140T2/CN1、MDV-D22G/N1Y、MDV-D22G/DN1Y、MDV-D28G/N1Y 、 MDV-D28G/DN1Y 、 MDV-D36G/N1Y 、 MDV-D36G/DN1Y 、 MDV-D45G/N1Y 、MDV-D45G/DN1Y、MDV-D56G/N1Y、MDV-D56G/DN1Y

The below is R51/E wireless remote controller

Remote Controller Specifications

Model	R51/E
Rated Voltage	3.0V
Lowest Voltage of CPU Emitting Signal	2.0V
Reaching Distance	8m (when using 3.0 voltage, it can get 11m)
Environment Temperature Range	-5℃～60℃

Introduction of Function Buttons on the Remote Controller

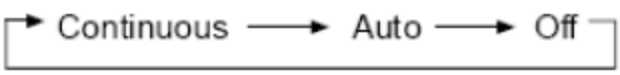


1. **TEMP DOWN Button:** Push the TEMP DOWN button to decrease the indoor temperature setting or to adjust the timer in a counter-clockwise direction.
2. **MODLE SELECT Button:** Each time you push the button, a mode is selected in a sequence that goes from AUTO, COOL, DRY, HEAT and FAN as the following figure indicates:

⚠**NOTE:** *HEAT only for Heat Pump*

3. **SWING Button:** Push this switch button to change the louver angle.
4. **RESET Button:** When the RESET button is pushed, all of the current settings are cancelled and the control will return to the initial settings.
5. **ECONOMIC RUNNING Button:** Push this button to go into the Energy-Saving operation mode.

6. **LOCK Button:** Push this button to lock in all the current settings. To release settings, push again.
7. **CANCEL Button:** Push this button to cancel the TIMER settings.
8. **TIMER Button:** This button is used to preset the time ON (start to operate) and the time OFF (turn off the operation)
9. **ON/OFF Button:** Push this button to start the unit operation. Push the button again to stop the unit operation.
10. **FAN SPEED Button:** This button is used for setting fan speed in the sequence that goes from AUTO, LOW, MED to HIGH, and then back to Auto.
11. **TEMP UP Button:** Push this button to increase the indoor temperature setting or to adjust the timer in a counter-clockwise direction.
12. **VENT Button:** Push this button to set the ventilating mode. The ventilating mode will operate in the following sequence:

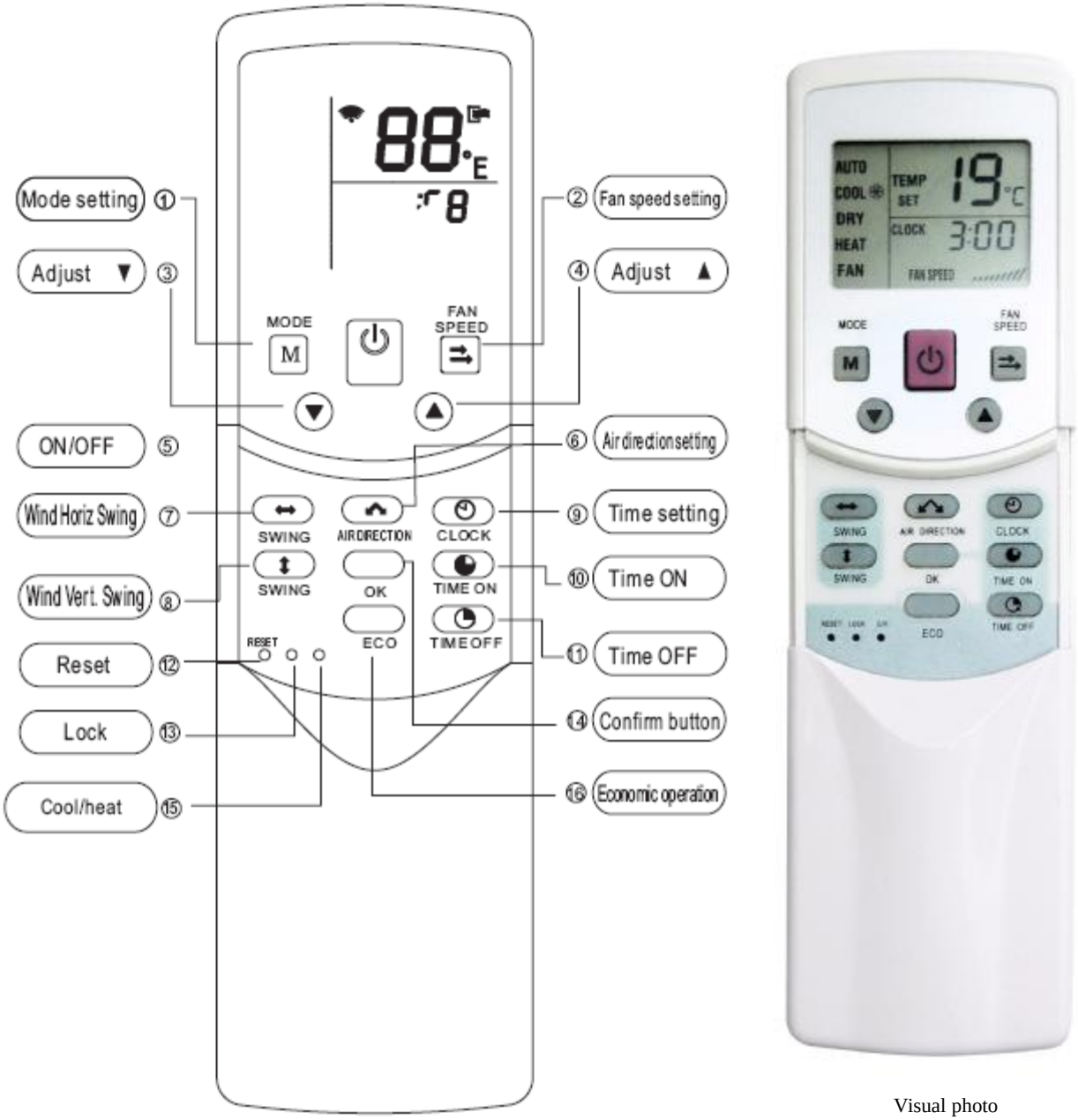


Ventilation Function is available for the Fresh Star Series.

2. Wireless remote controller R05/BGE

There‘s one model R05-BG/E for hereinafter type:
MDV-D36DL/N1-B 、 MDV-D45DL/N1-B 、 MDV-D56DL/N1-B 、 MDV-D71DL/N1-B 、 MDV-D80DL/N1-B 、 MDV-D90DL/N1-B、MDV-D112DL/N1-B、MDV-D140DL/N1-B

The below is R05-BG/E wireless remote controller



Visual photo

Note:

1. The outline figure on cover is for reference only, which may differ from what you purchased.
2. Make sure to read chapter PRECAUTIONS before you operate the air conditioner.
3. The content is available for model R05/BG.
4. R05/BGE can be applicable for cool only type and cool & heat type air conditioners.

Precautions

Curtain, door or the similar objects will prevent the remote signal from being received by air conditioner.
Do not get the interior of remote controller wet.
It is forbidden to expose it to direct sunlight or locate it in the place with high temp.
Malfunction may occur if infrared signal receiver on air conditioner is exposed to sunlight.
Please shelter the signal receiver from sunlight with curtain.

Please remove the nearby electronic device for they may affect the performance of remote controller.

Do not put the used or different batteries into the remote controller, otherwise remote controller will fail to send signal.

Please remove the batteries before long period unused, otherwise the remote controller may be damaged.

If pressing the button reset the remote controller, which indicates low battery, please replace the batteries.

If no receiving sound is heard from indoor unit or on remote controller does not flash, please replace the batteries.

Effective transmitting distance of remote controller is 8m, please aim the signal sending part to the receiver on air conditioner.

Model and specification

Model	R05/BGE
Rated voltage	3.0V(2pieces of LR03 7# batteries)
Min voltage for sending signal of CPU	2.4V
Effective receiving distance	8m~11m
Operation condition	-5~60℃

Buttons and their functions

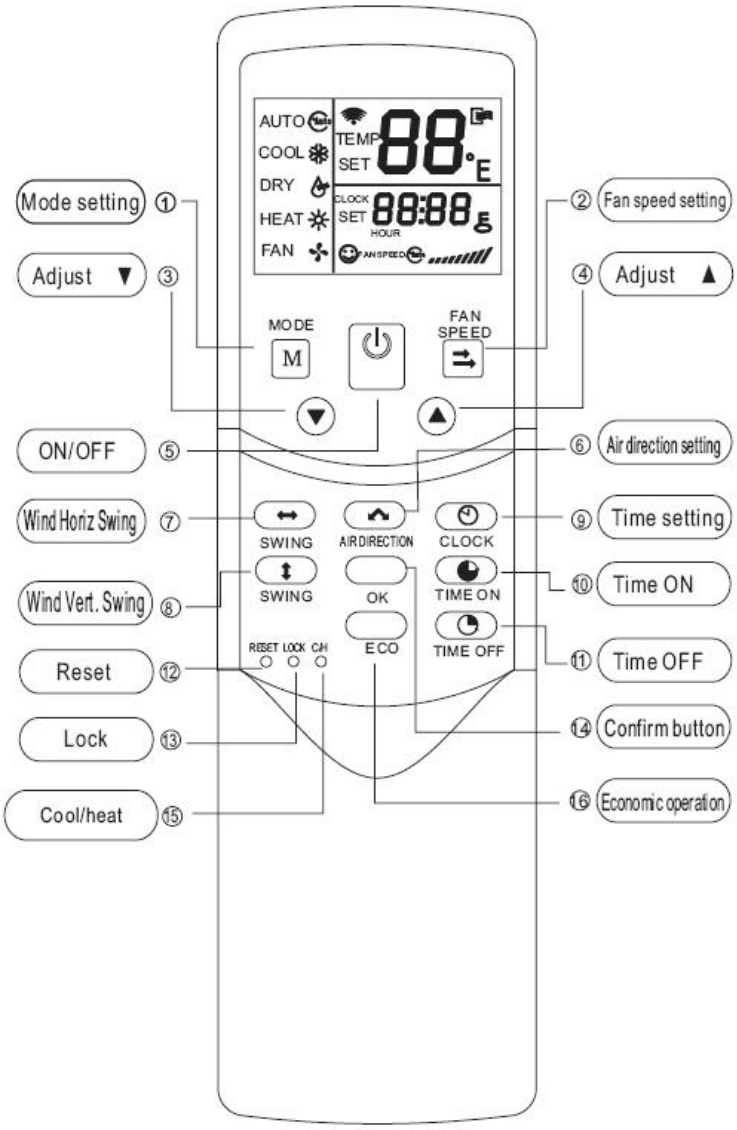
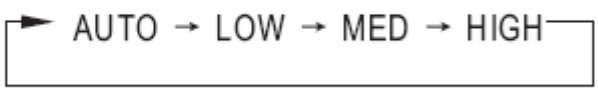


Chart 1

1. MODE: Once pressing, running mode will be selected in the following sequence:

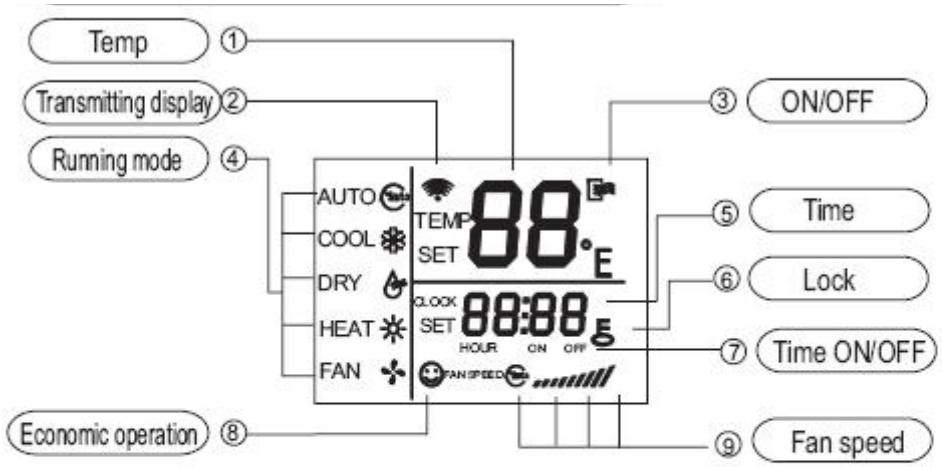
NOTE: No heating mode for cool only type unit.

2. FAN SPEED: Fan speed will be selected in following sequence once pressing this button:



3. Adjust: Decrease the set temp. Keeping pressing will decrease the temp with 1°C per 0.5s.
4. Adjust: Increase the set temp. Keeping pressing will increase the temp with 1°C per 0.5s.
5. ON/OFF: For turning on or turning off the air conditioner.
6. AIR DIRECTION: Activate swing function of air deflector. Once pressing, air deflector will turn 6°C. For normal operation and better cooling and heating effect, deflector will not turn to the degree which is the state of deflector when the unit is turned off.(Only available when remote controller is used with corresponding unit.)
7. Wind Horiz Swing: Activate or turn off wind horizontal swing function. (Only available when remote controller is used with corresponding unit.)
8. Wind Vert Swing: Activate or turn off wind vertical swing function. (Only available when remote controller is used with corresponding unit.)
9. CLOCK: Display the current time. (12:00 is displayed when resetting or electrifying for the first time.) Press CLOCK for 5s, icon indicating hour will flash with 0.5s. Press it again, icon indicating minute will flash with 0.5s. and are used to adjust the figure. Setting or modification is effective only by pressing OK button to make confirmation.
10. TIME ON: For time ON setting. Once pressing this button, the time will increase by 0.5 hour. When the set time exceeds 10 hours, pressing the button will increase the time by 1 hour. Adjusting the figure to 0.00 will cancel time ON setting.
11. TIME OFF: For time OFF setting. Once pressing this button, the time will increase by 0.5 hour. When the set time exceeds 10 hours, pressing the button will increase the time by 1 hour. Adjust the figure to 0.00 will cancel time ON setting.
12. RESET (inner located): Press this button with a needle of 1mm to cancel the current setting and reset remote controller.
13. LOCK (inner located): Press this button with a needle of 1mm to lock or unlock the current setting.
14. OK: Used to confirm the time setting and modification.
15. COOL/HEAT (inner located): Press this button with a needle of 1mm to shift mode between COOL only and COOL&HEAT. During setting, back light will be lightened. Factory default mode is COOL &HEAT.
16. ECO: Activate or turn off economic operation mode. It is suggested to turn on this function when sleeping. (Only available when remote controller is used with corresponding unit.)

Indicators and functions



1. Temp: Display the set temperature. Adjust temperature via and No display in this area if the unit is on FAN mode.
2. Transmitting display: The icon will flash once when the signal is sent by remote controller.
3. ON/FF: Icon is displayed when the remote controller is turned on, or vice versa.
4. Running mode: Press MODE to display current running mode. AUTO, COOL, DRY, HEAT and FAN can be selected. (HEAT function is invalid for cool only type unit.)

5. Time: Display the current set time. Press CLOCK for 5s, icon indicating hour will flash. Press this button again, icon indicating minute will flash. And are used to adjust the figure . Setting or modification is effective only by pressing OK button to make confirmation.
6. Lock: The icon will be lightened or off when pressing LOCK. In locked state, all the buttons are ineffective except button LOCK.
7. Time ON/OFF: In the state of time ON, icon ON will be lightened, which is the same to the state of time OFF. Setting timer ON and OFF simultaneously, both icons ON and OFF are displayed.
8. Fan speed: Press FAN SPEED to display the current wind speed. AUTO, LOW, MED and HIGH can be selected. The default state is high fan speed for the unit without medium fan speed.
9. Economic operation: This icon will be lightened or off when pressing ECO button.

NOTE: All the above icons will be displayed only when the remote controller is electrified for the first time or reset.

OPERATION INSTRUCTIONS

Install and replace batteries

Install 2 pieces of 7# alkaline batteries.

Slide the cover to install batteries and make sure to place them in right pole.

AUTO operation

Switch on the power and running indicator light on indoor unit flashes.

1. Press MODE to select AUTO.
2. Adjust temp via and. Generally the range is 17°C ~30°C.
3. Press ON/OFF and running indicator light on indoor unit is lightened. Air conditioner will work on AUTO mode and fan speed is AUTO which is nonadjustable.
4. ECO is effective on AUTO operation.

COOL/HEAT/FAN operation

1. Press MODE to select COOL, HEAT or FAN.
2. Adjust temp via and. Generally the range is 17°C ~30°C.
3. Press FAN SPEED to select AUTO, LOW, MED or HIGH.
4. Press ON/OFF and running indicator light on indoor unit is lightened. Air conditioner will work on the set mode. Stop operation via ON/OFF.

To adjust the figure. Setting or modification is effective only by pressing OK button to make confirmation.

NOTE: On FAN mode, temp is nonadjustable and ECO is ineffective. Procedure 2 is omitted.

DRY operation

1. Press MODE to select DRY.
2. Adjust temp via and. Generally the range is 17°C ~30°C.
3. Press ON/OFF and running indicator light on indoor unit is lightened. Air conditioner will work on DRY mode. Turn off the unit via ON/OFF.
4. On DRY mode, ECO and FAN SPEED are unavailable.

Timer operation

TIME ON and TIME OFF are used to turn on and turn off the unit at the set time respectively.

TIME ON operation

1. Press TIME ON, icon SET, HOUR and ON are lightened.
2. Press TIME ON again and adjust the time.
3. Keep pressing this button, the time will increase by 0.5 hour. When the set time exceeds 10 hours, pressing the button will increase the time by 1 hour.
4. 0.5s after setting, remote controller will send TIME ON command to the unit.

TIME OFF operation

1. Press TIME OFF, icon SET, HOUR and OFF are lightened.
2. Press TIME OFF again and adjust the time.
3. Keep pressing this button, the time will increase by 0.5 hour. When the set time exceeds 10 hours, pressing the button will increase the time by 1 hour.
4. 0.5s after setting, remote controller will send TIME OFF command to the unit.

Set TIME ON and TIME OFF simultaneously

1. Set TIME ON according to procedures 1 and 2 specified in TIME ON operation.
2. Set TIME OFF as the procedures 1 and 2 specified in TIME OFF operation.
3. If both the set time of TIME ON and TIME OFF not exceed 10 hours, time OFF operation will activated 0.5 hour later than time ON operation. If both the set time of TIME ON and TIME OFF exceed 10 hours, time OFF operation will be activated 1 hour later than time ON operation.
4. 0.5s after setting, remote controller will send TIME ON command to the unit.

Modification of timer operation

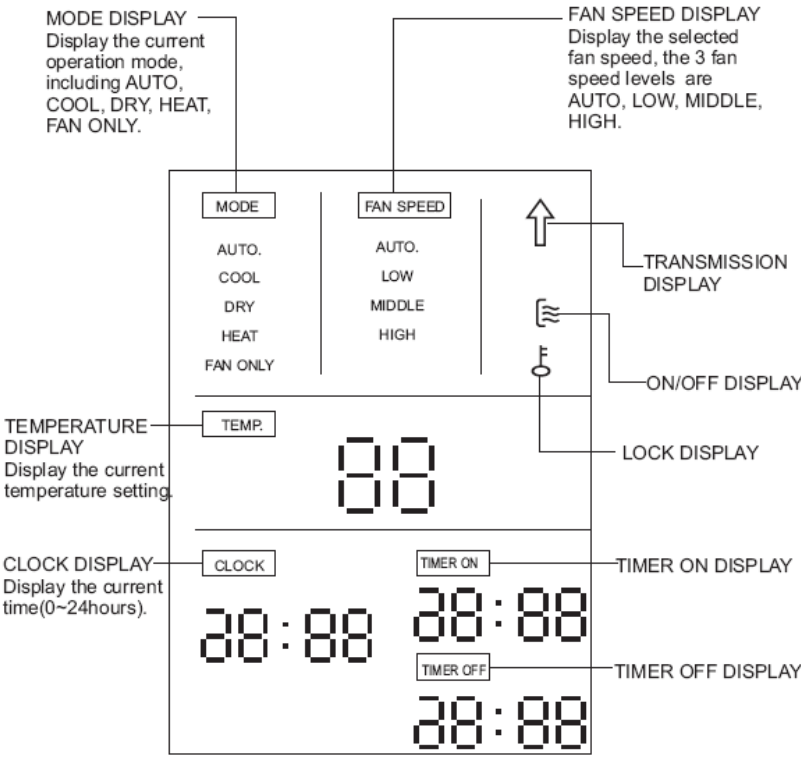
Press corresponding button and readjust the time of time ON and time OFF. Adjust the time figure to 0.00 to cancel the timer operation.

NOTE: The time set in timer operation is the relative figure based on the clock on remote controller. Adjusting clock is unavailable when TIME ON or TIME OFF is activated

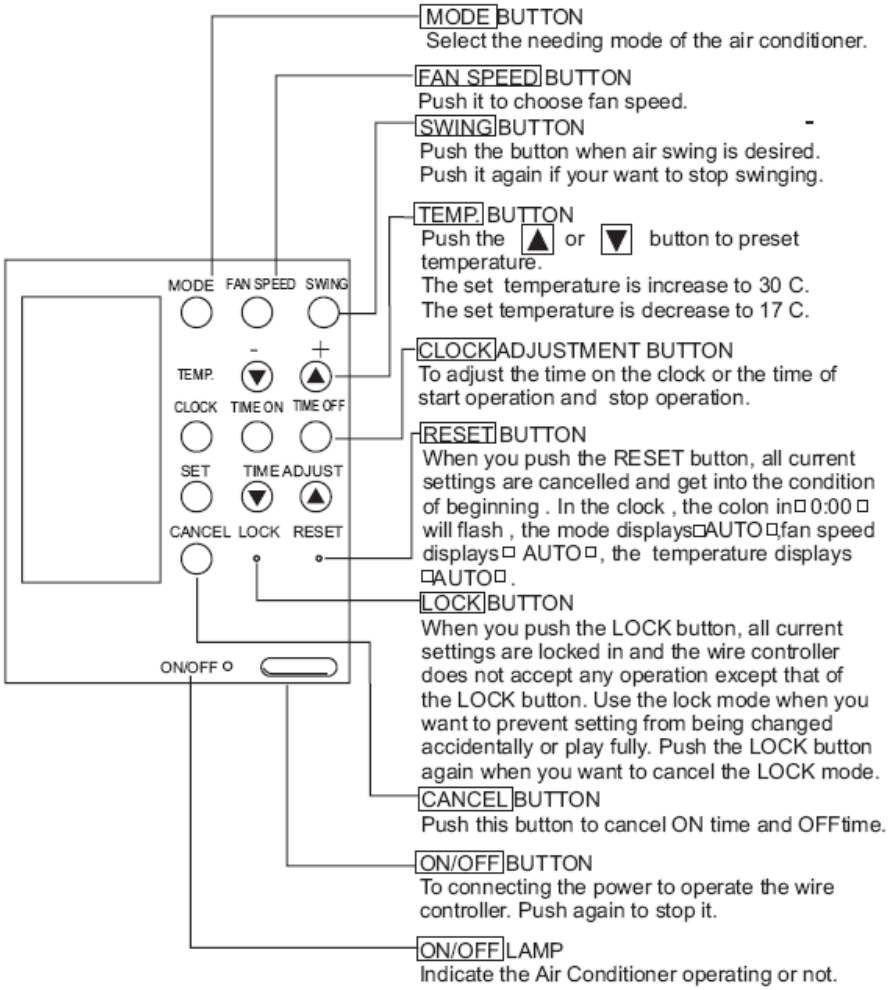
3. Optional Controller

2.1The below is KJR-01B wired remote controller

NAME AND FUNCTION OF INDICATORS ON THE WIRE CONTROLLER



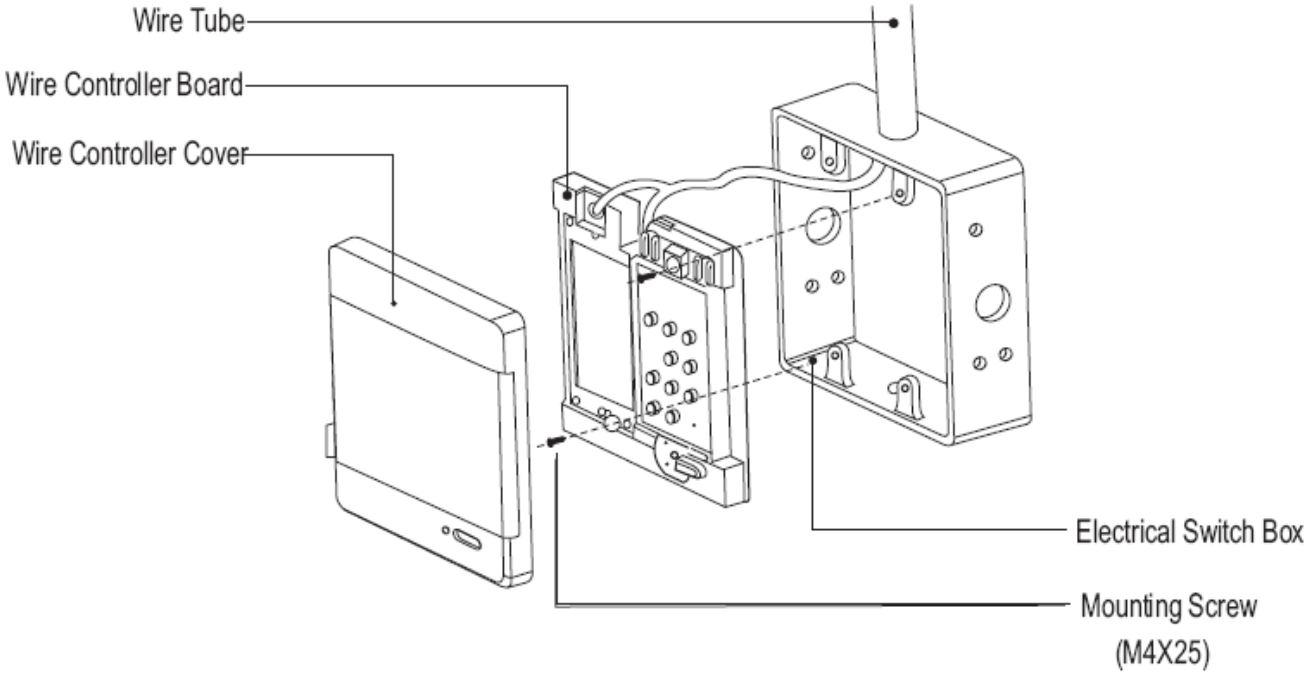
WIRE CONTROLLER AND THEIR FUNCTIONS


MODE BUTTON
Select the needing mode of the air conditioner.
FAN SPEED BUTTON
Push it to choose fan speed.
SWING BUTTON
Push the button when air swing is desired.
Push it again if your want to stop swinging.
TEMP. BUTTON
Push the ▲ or ▼ button to preset temperature.
The set temperature is increase to 30 C.
The set temperature is decrease to 17 C.
CLOCK ADJUSTMENT BUTTON
To adjust the time on the clock or the time of start operation and stop operation.
RESET BUTTON
When you push the RESET button, all current settings are cancelled and get into the condition of beginning . In the clock , the colon in□ 0:00 □ will flash , the mode displays□AUTO□,fan speed displays□ AUTO□, the temperature displays □AUTO□.
LOCK BUTTON
When you push the LOCK button, all current settings are locked in and the wire controller does not accept any operation except that of the LOCK button. Use the lock mode when you want to prevent setting from being changed accidentally or play fully. Push the LOCK button again when you want to cancel the LOCK mode.
CANCEL BUTTON
Push this button to cancel ON time and OFFtime.
ON/OFF BUTTON
To connecting the power to operate the wire controller. Push again to stop it.
ON/OFF LAMP
Indicate the Air Conditioner operating or not.
MODE
FAN SPEED
SWING
TEMP.
CLOCK
TIME ON
TIME OFF
SET
TIME ADJUST
CANCEL
LOCK
RESET
ON/OFF

Installation

Installation into the wall

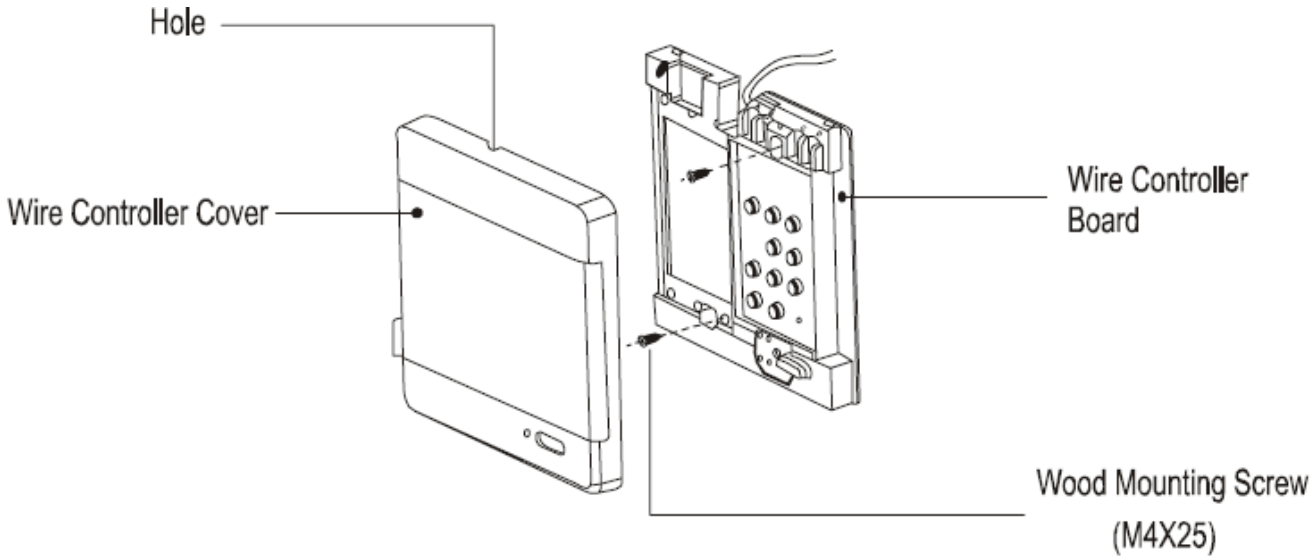
The diameter of Wire Controller wire must be suitable for its length.
Wiring Tube must be suitable for the wires.
Turn a screwdriver at the concave on bottom panel of the Wire Controller to remove the Cover.



NOTE

- Never turn screws too tightly, or else the cover would be dented, or the Liquid Crystal breaks.
- Do not cut wires when installing Wire Controller cover.

Installation on the wall
Cut a hole that can let a Three-core Rubber Insulating Screen Cable pass by from the middle of Wire Controller Top Cover before installation.



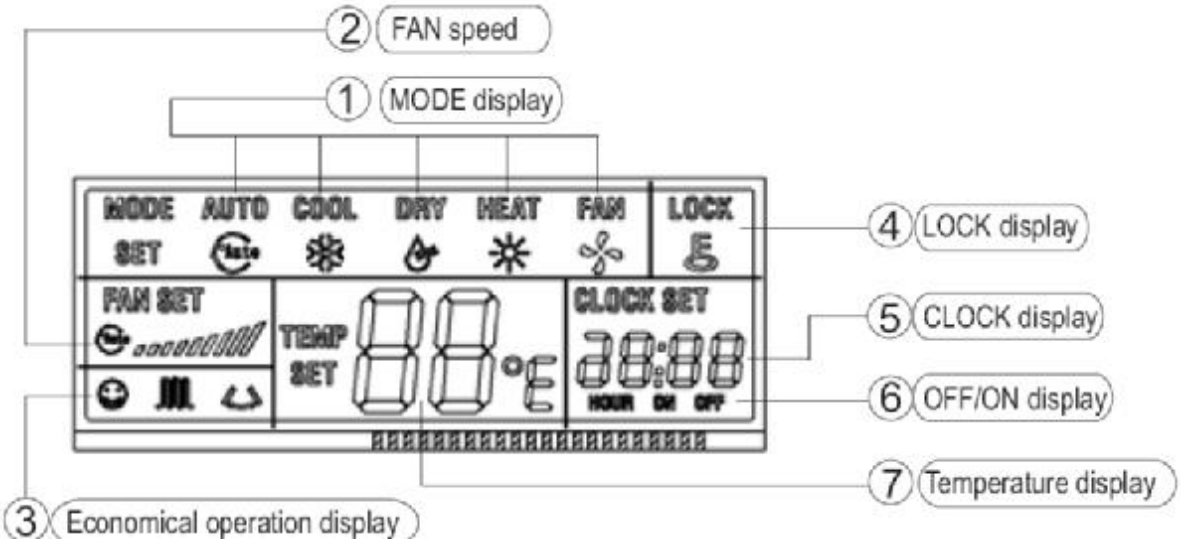
Refer to Electrical Switch Box Installation above for other installation information you need.
Use Clue around the Screen Cables and the Hole for sealing after installation completed.

NOTE

- Never turn screws too tightly, or else the cover would be dented or the Liquid Crystal breaks.
- Do not cut wires when installing Wire Controller Cover.
- Please leave enough long cable for maintenance of the Wire Controller Board.

2.2The below is KJR-10B wired remote controller

NAME AND FUNCTION OF LCD ON THE WIRE CONTROLLER



1. Mode select button (MODE):

   Press MODE button to select “COOL”, “DRY” , "HEAT", or "FAN ONLY" mode.(HEAT is invalid for COOL ONLY wire controller.)

2. Fan speed button (FAN SPEED)

   Press FAN SPEED to select fan speed from "AUTO", "LOW"," MED" , and "HIGH”. NOTE: some air conditioners have no MED fan speed, and then the MED is regarded as HIGH.

3. Economical operation displays:

   Press ECONOMICAL to display economical operation, if press ECONOMICAL again then the display disappears

4. Lock display

   Press LOCK to display the icon of LOCK. Press the button again then the icon of LOCK disappears. In the mode of LOCK, all the buttons are invalid except for LOCK button.

5. CLOCK displayUsually display the clock set currently. Press the button CLOCK for 4 seconds, the HOUR part will flash, press button ▲ and ▼ to adjust HOUR. Press the button CLOCK again, the minute part flash, press button▲ or▼ to adjust MINUTE. After clock set or clock operation, it must press CONFIRM to complete the set.

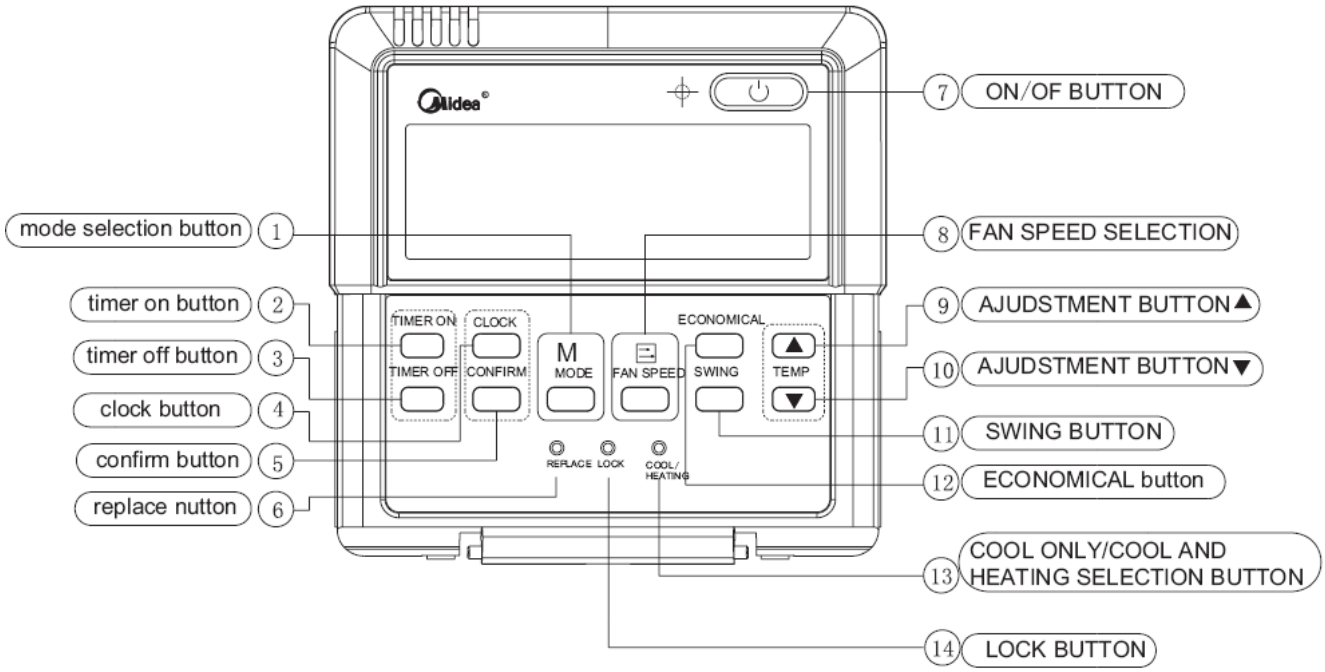
6. TIMER ON/OFF display:

   Display ON at the state of TIMER ON adjustment or after only set the TIMER ON; Display OFF at the state of TIMER OFF adjustment or after only set the TIMER OFF; Display ON/OFF if simultaneously set the mode of TIMER ON and TIMER OFF.

7. Temperature display area:

   Usually display the set temperature. Press the buttons of and to set temperature, at the mode of FAN, there is no figure display in the area.

NAME AND FUNCTIONS OF BUTTONS ON WIRE CONTROLLER



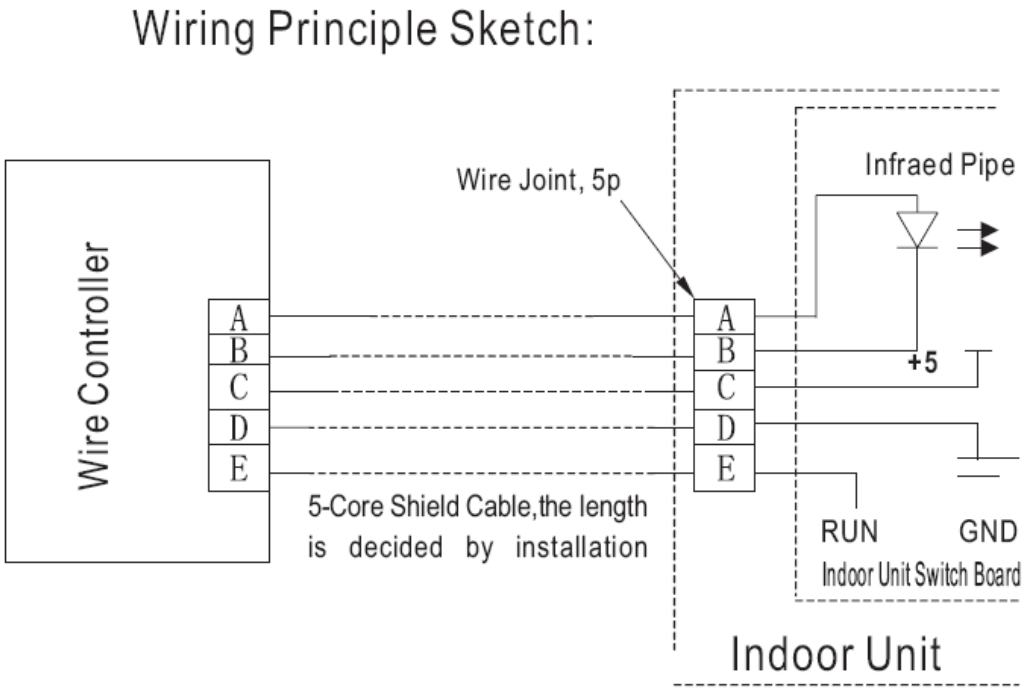
1. mode selection button:
   It is used to select mode, push the button one time, then the operation modes will change in turn as follows:

AUTO→ COOLING →DEHUMIDIFY →HEATING→ FAN

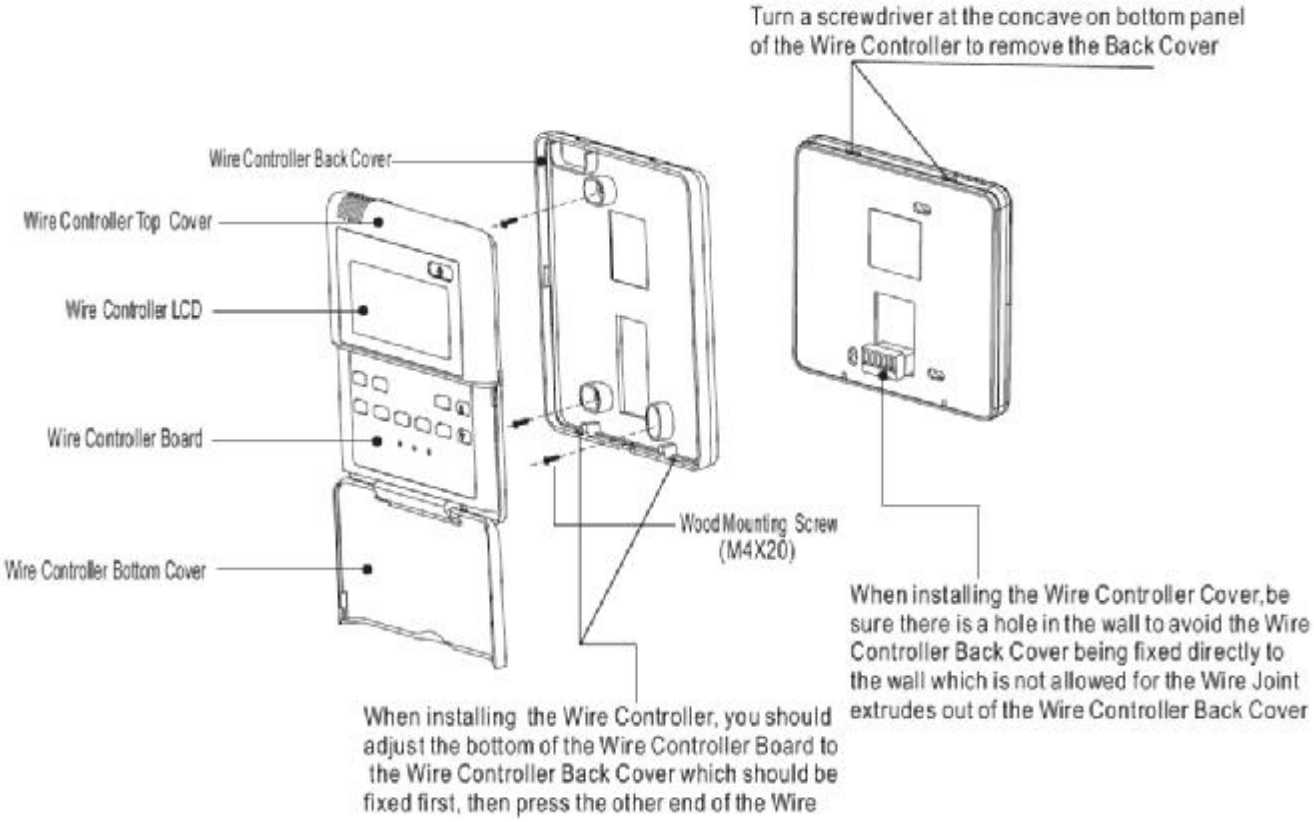
Remark: no heating mode if wire controller is set as the cool only.

2. timer on button:
   Push the button to set TIMER ON, each time you push the button the time moves forward by o.5 hours. When the set time is over 10 hours, each time you push the button the time moves forward by 1 hour. If want to cancel the TIMER ON, then adjust the time of TIMER ON as 0.0
3. timer off button:
   Push the button to set TIMER OFF, each time you push the button the time moves forward by o.5 hours. When the set time is over 10 hours, each time you push the button the time moves forward by 1 hour. If want to cancel the TIMER OFF, then adjust the time of TIMER OFF as 0.0
4. CLOCK button:
   Normally display the clock set currently (display 12:00 for the first electrifying or resetting). When push the button for 4 seconds, the hour part on the clock display flashes every 0.5 seconds, then push button and to adjust hour; push the button CLOCK again, the minute part flashes every 0.5 seconds, then push and button to adjust minute. When set clock or alter clock setting, must push the confirm button to complete the setting

Installation



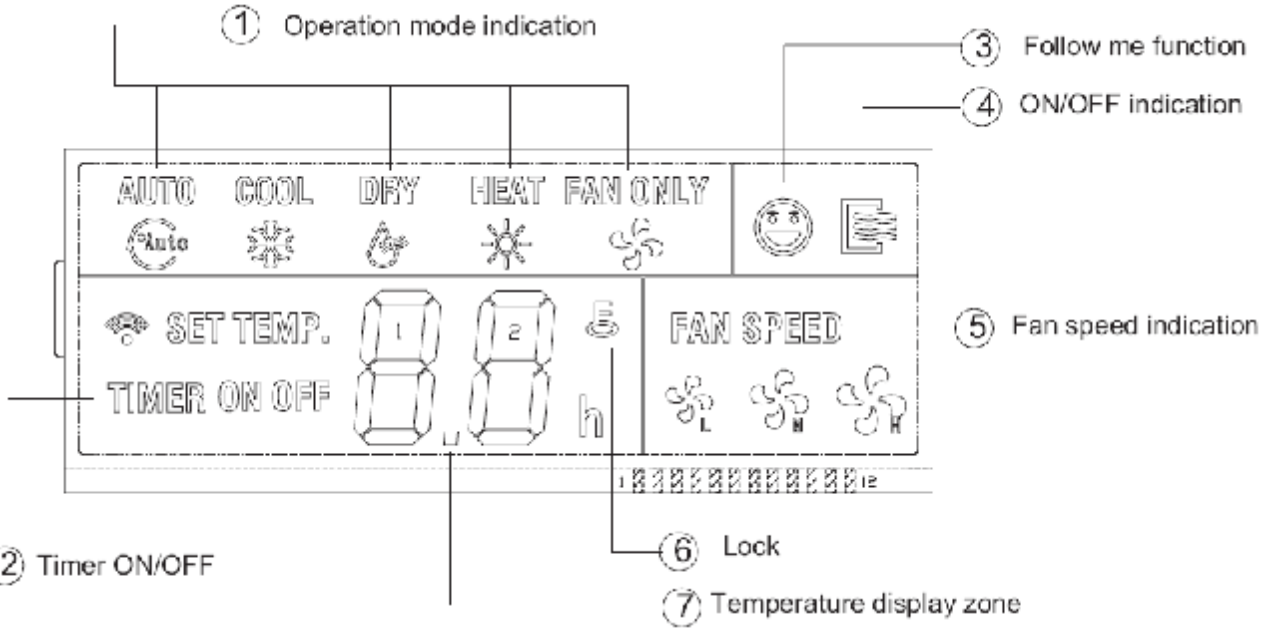
Installation Notice:
When the air conditioner needs the constant frequency wire Controller, be sure adding a Wire Joint with 5 terminal named
A, B, C, D, E in indoor unit, and fixing a infrared emitter whose anode and cathode connecting with A and B near the receiver
in the Indoor Unit Switch Board, then connecting the terminal +5v, GND, Run in the Switch Board to C,D,E respectively.


Turn a screwdriver at the concave on bottom panel of the Wire Controller to remove the Back Cover
Wire Controller Back Cover
Wire Controller Top Cover
Wire Controller LCD
Wire Controller Board
Wire Controller Bottom Cover
Wood Mounting Screw (M4X20)
When installing the Wire Controller Cover,be sure there is a hole in the wall to avoid the Wire Controller Back Cover being fixed directly to the wall which is not allowed for the Wire Joint extrudes out of the Wire Controller Back Cover
When installing the Wire Controller, you should adjust the bottom of the Wire Controller Board to the Wire Controller Back Cover which should be fixed first, then press the other end of the Wire

NOTE
Never turn screws too tightly, or else the cover would be dented or the Liquid Crystal breaks.
Please leave enough long cable for maintenance of the Wire Controller Board.

2.3The below is KJR-12B wired remote controller

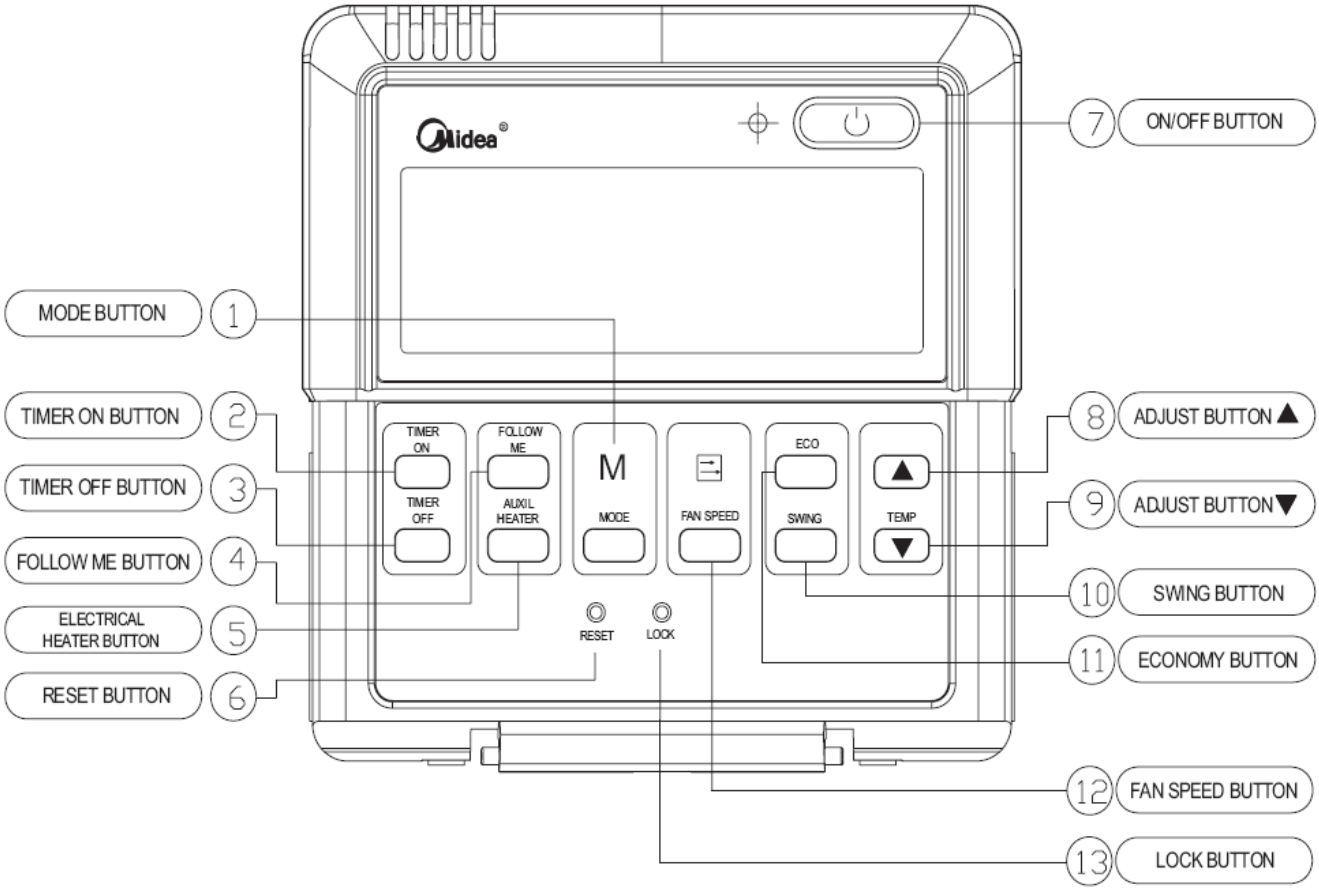
NAME AND FUCTION OF INDICATORS ON THE CONTROLLER



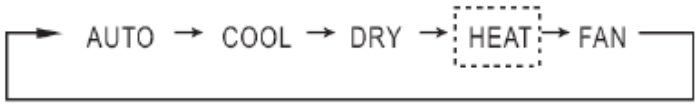
1. Operation mode indication: When press" MODE" button, the following mode can be selected in circle. Auto Cool Dry Heat Fan only Auto.
   Auto→ Cool→ Dry →Heat→ Fan only →Auto
   For cooling only model, heat mode is skipped.
2. Timer: When adjust setting on time or only on time is set, the "ON" is lighted. When adjust setting off time or only off time is set, the" OFF" is lighted. If on and off timer are both set, the "ON" and "OFF" are both lighted.
3. Follow me function: There is a temperature sensor inside the wire controller, after setting temperature, it will compare the two temperatures, and the space of wire controller will be the same as setting temperature. It is available under cooling, heating, auto mode.
4. ON/OFF indication: When it is on, the icon display, otherwise it is extinguished.

5. Fan speed indication: There are four fan modes: low, middle, high, auto. For some models, no middle fan then the middle fan is seen as high speed.
6. Lock: When the"LOCK"button is pressed, the icon appears and other buttons is unable, press again, the icon disappears.
7. Temperature display zone: Generally it displays setting temperature; it can be adjusted by press temperature button▲and▼ .But in fan mode, no display here.

NAME AND OPERATION OF THE BUTTON ON THE WIRE CONTROLLER



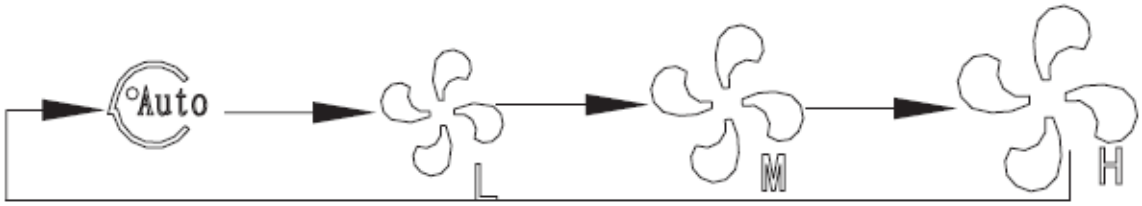
1. Mode botton:When press this botton,the operation mode change as the following sequence:



Remark: For the cooling only model, the heating mode is skipped.

2. Timer on button: Press this button, timer on function is active. Then every press, the time increase 0.5h, after 10h, 1h incensement after each press. If cancel this Function, just set it to "0.0"
3. Timer off button: Press this button, timer off function is active. Then every press, the time increase 0.5h, after 10h, 1h increasement after each press. If cancel this function, just set it to "0.0" .
4. Follow me button: When under cool, heat and auto mode, press this button, follow me function is active. Press again, this function is ineffective.
5. Electrical heater button: If press this button in heat mode, electrical heater function become ineffective.
6. Reset button (hidden): Use a 1mm stick to press in the little hole , then the current setting is canceled . The wire controllers enter into original state.
7. ON/OFF button: When in off state, press this button, the indicator is on, the wire controller enter into on state, and send setting information to in door Pcb . When in on state, press this button, the indicator is off, and send instruction. If timer on or timer off has been set, it cancel this setting then send instruction to stop the machine.
8. Adjust button: Set indoor temperature up. If press and hold on, it will increase at 1degree per 0.5 second.
9. Adjust button: Set indoor temperature down. if press and hold on, it will decrease at 1degree per 0.5 Second.

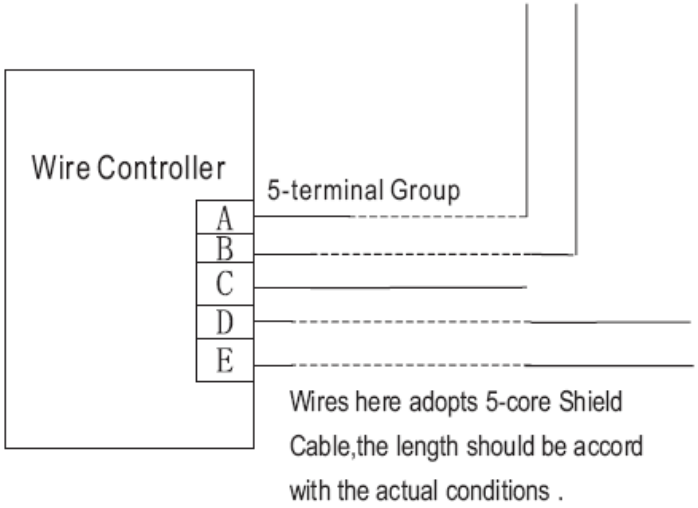
10. Swing button: First press, start swing function; second press, stop swing. (Match to some model with swing function).
11. Economy operation button: press this button, the indoor unit operates in economy mode, press again, exit this mode (it may be ineffective for some models)
12. Fan speed button: press this button consecutively; the fan speed will circle as follow:



13. Lock button (hidden): When you push the LOCK button, all current settings are locked in and the wire controller does not accept any operation except that of the LOCK button. Use the lock mode when you want to prevent setting from being changed accidentally or play fully. Push the LOCK button again when you want to cancel the LOCK mode.

Installation

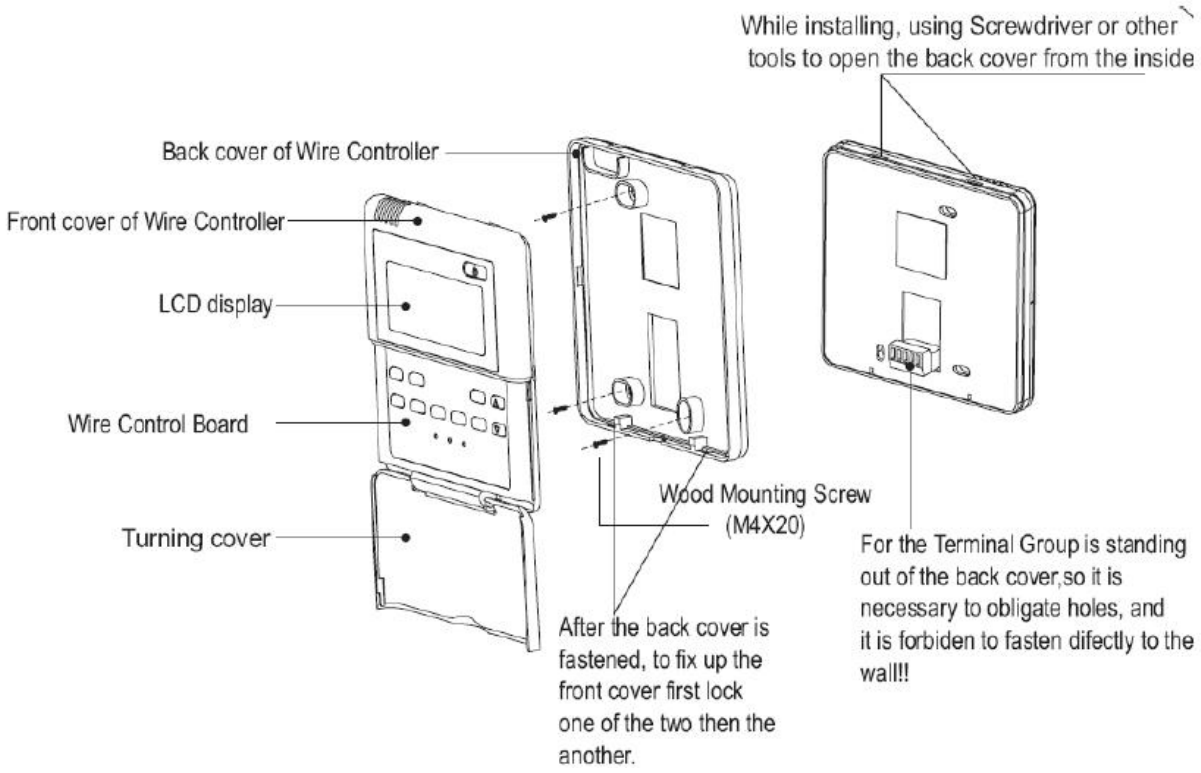
Wiring technique and principle:



Instruction for installing

When it is necessary to use this controller, it needs to add a small 5-terminal Group and fasten a infrared emitter near to the receiver in the switch board. Connecting the anode and cathode to A 、B of the Terminal Group, also connect

+5V 、GND、 RUN 、of the switch board separately to the C、 D、 E of the 5-terminal Group.

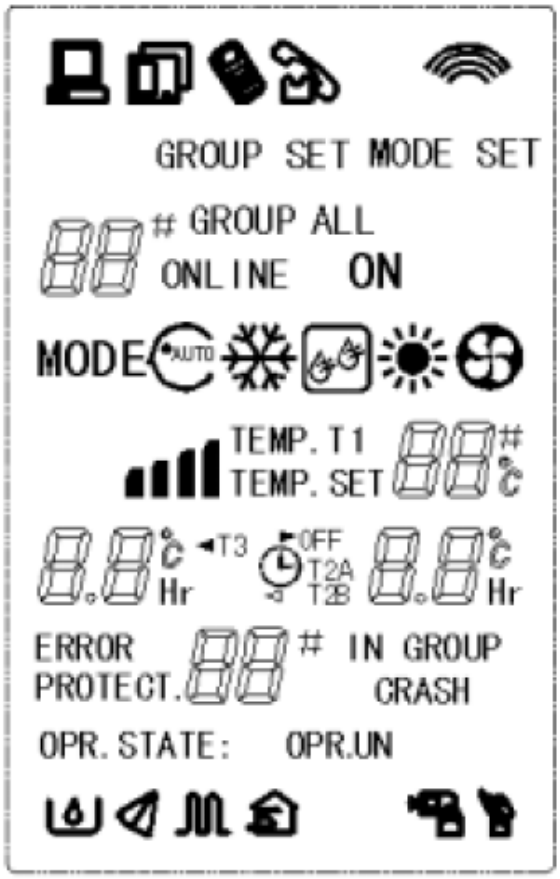

While installing, using Screwdriver or other tools to open the back cover from the inside
Back cover of Wire Controller
Front cover of Wire Controller
LCD display
Wire Control Board
Turning cover
Wood Mounting Screw (M4X20)
For the Terminal Group is standing out of the back cover,so it is necessary to obligate holes, and it is forbiden to fasten difectly to the wall!!
After the back cover is fastened, to fix up the front cover first lock one of the two then the another.

NOTE

- The connecting wire should be a little longer as to take away the switch board easily for maintenance.
- The connecting wire should be a little longer as to take away the controller easily for maintenance.

2.4The below is MD-CCM01 indoor CCM

Name and Function of Indicators on CCM LCD Screen



1) Common Display Data

Common display data will be indicated in all display pages.

a. Figure means CCM is in network control with PC or Gateway.

b. Figure means CCM is in communication connection with Function Module.

c. Figure means CCM is in communication connection with Message Remote Control Module.

d. Figure means CCM is in communication connection with Telephone Remote Control Module.

e. If CCM is in normal communication with NIM, then (Blank), ●, , will be displayed in dynamic circulation. Otherwise, no any display.

f. Lock Symbol means the CCM is in Lock state or the buttons are in Lock state. ON means the buttons are in Lock state or both CCM and Buttons are in Lock state, and 0.5 second flash means the CCM is in Lock state.

g. When setting page layout, if the selected air-conditioner is in Remote Controller Lock state (in case that several air-conditioners are in operation, if only one is in Remote Controller Lock state, then that means in Lock state.), symbol will display steadily. If in Mode Lock state, symbol will flash in 0.5Hz. If Remote Controller Lock state and

Mode Lock state exist at the same time, symbol will display steadily.

2) Display Data Treatment

Data Display area adopts 7-segment code, and there are 5 groups of 2-digital 7-segment display.

a. **TEMP.** Display

TEMP. Display is applicable to the following: Set Temp. Ts（17-30℃）, Indoor Return Air Temp. T1, Evaporator Pipe Temp. T2A, Evaporator Middle Pipe Temp. T2B, Condenser Pipe Temp. T3. And the allowable data display range is 0℃--99℃. If higher than 99℃, then display 99℃. If lower than 0℃, then

display 0℃. What's more, the real display range also has relationship with the PCB temperature checking range. If no effective data, then display "-"and Unit symbol ℃ will be ON.

b. **CURRENT** Display

CURRENT display is applicable to Compressor Current. The allowable range is 0A-99A. If no effective data, then display "-"and Unit symbol mp A will be ON.

c. **TIMER** Display

TIMER is used to display the time of TIMER ON and TIMER OFF. The unit symbol Hr will be ON at the same time.

d. **ERROR** code display

ERROR is used to display malfunction warning data of the air-conditioner or the CCM.

The display range of ERROR code is E0-EF, where, E means ERROR, 0-F means

ERROR code, or Network ERROR display 00-0F#. If no EEROR, then display "E-" and # will be ON.

e. **PROTECT.** Code display

PROTECT. Is used to display malfunction warning data of the air-conditioner or the CCM.

The display range of PROTECT. Code is P0-PF, where, P means PROTECT, 0-F means

PROTECT. Code. If no PROTECT, then display "P-" and # will be ON.

f. **ADDRESS** display

ADDRESS is used to display the ADDRESS code of the present selected air-conditioner.

The display range is 0-63, and at the same time # will be ON.

g. **Number** Display of Online air-conditioners and **ON/OFF** air-conditioners It is used to display the number of online air-conditioners in **LAN** and **ON/OFF** air-conditioners at present. The display range is 0-64.

h. **Auxiliary function** display

Means ECONOMIC RUNNING, means SWING, means Auxiliary Heater, means VENT.

i. **Mode Confliction** Display

Function Confliction display will flash at interval 1 second.

3) **Stand-by Page** Display

Stand-by page data consist of several pages and the page number is not fixed.

Stand-by page can display the total number of air-conditioners in network, under ON state and under OFF state. If one or more air-conditioners in network have malfunction, or the CCM checks other malfunctions, the Stand-by page will display the first ERROR Code from small to big according to the number. Other malfunctions can be queried by buttons "**+**" and "**-**". If no malfunction and one or more online air-conditioners in network are in ON state, the Stand-by page will display present main Running Mode, Set Temp. And Indoor Fan Speed. If no malfunction and all air-conditioners in network are in OFF state, ERROR Code nor Running mode will not be displayed.

4) **Query Page** Display

Query Page data consist of several pages and the page number is not fixed.

a. When first entering into Query Page Display, the address of the first online air-conditioner will be selected in default and the data of the first page will be displayed.

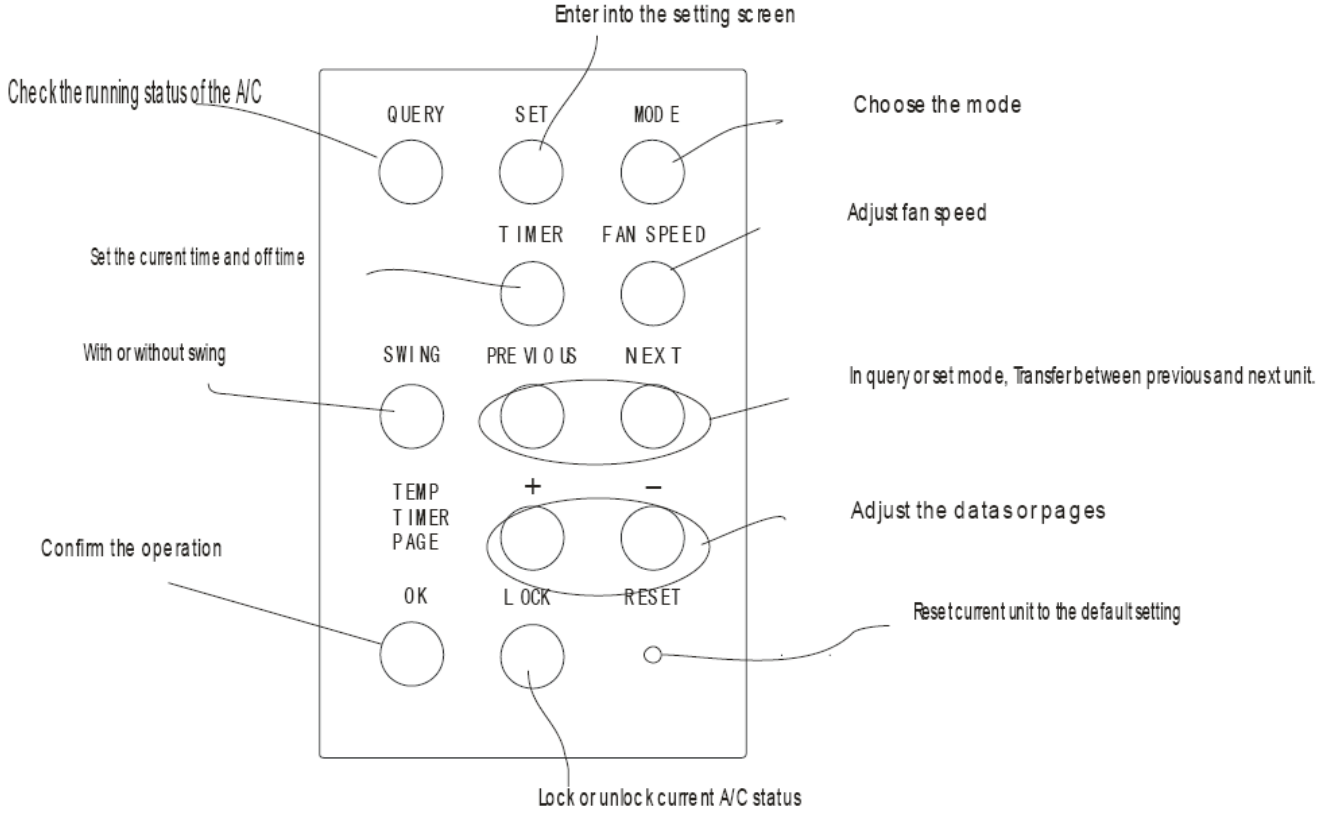
b. The data of other pages can be displayed in circulation by pressing buttons "+" or "-".

c. The running state data of different air-conditioners can be queried by pressing "Previous" or "Next" to select the address.

5) **Running Mode Setting Page** Display

Running Mode Setting Display only has one page. And display the selected mode, auxiliary function and the selected operation state.

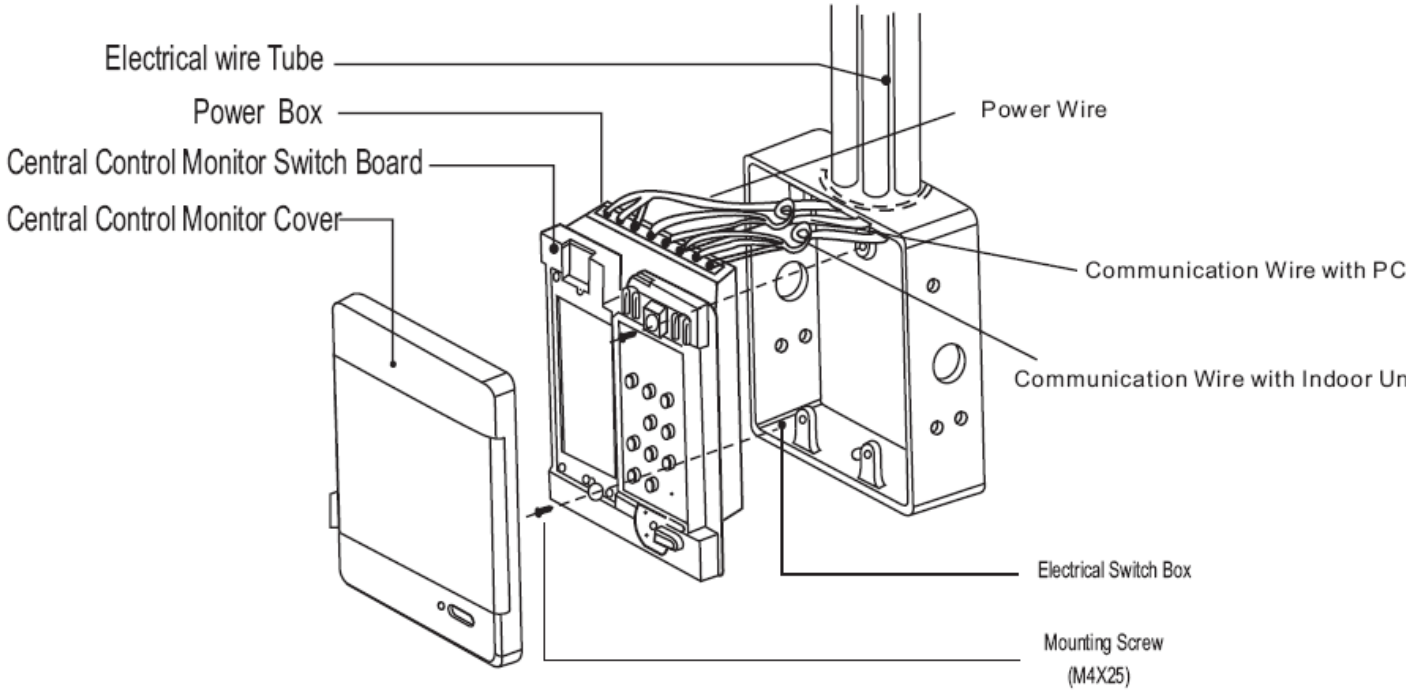
Name and Function of Buttons on CCM



Installation

1. Adopt Electrical Switch Box

The diamete of Central Control Monitor wire must be suitable for its length.
Electrical wiring tube must be suitable for the wires.
Turn a screwdriver at the concave on bottom panel of the Central Control Monitor to remove the cover.



NOTE

- Never turn screws too tightly, otherwise the cover would be dented, or the Liquid Crystal would be broken.
- Do not cut wires when installing the cover of Central Control Monitor.

2. Installation of CCM and NIM

1) Terminal P, Q, E at the back of CCM are connected to the terminal P, Q, E of PC.

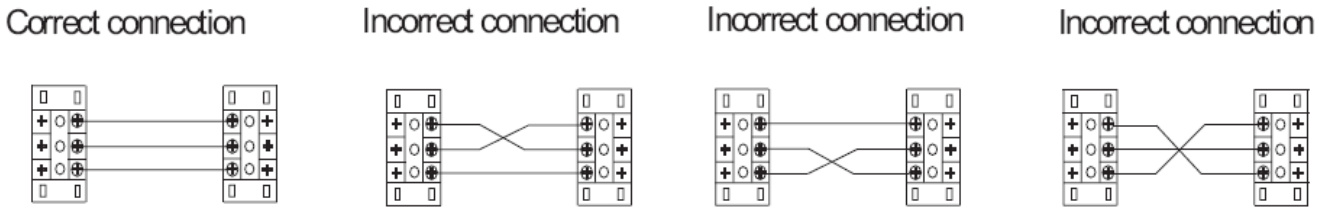
The CCM power connects 220V~ 50Hz power directly to the terminal L, N, At the back of wire controller.

2) The communication cable of CCM and power cable should not be placed in the same electrical wire tube and the two tubes should have 300-500mm distance.
3) The length of CCM communication cable should not exceed 1200m.
4) The shield cable should try to avoid middle transfer connector. If have connectors, it had better to connect by terminal block.
5) After finishing connection, do not use Megger to have the insulation check to the signal wire.

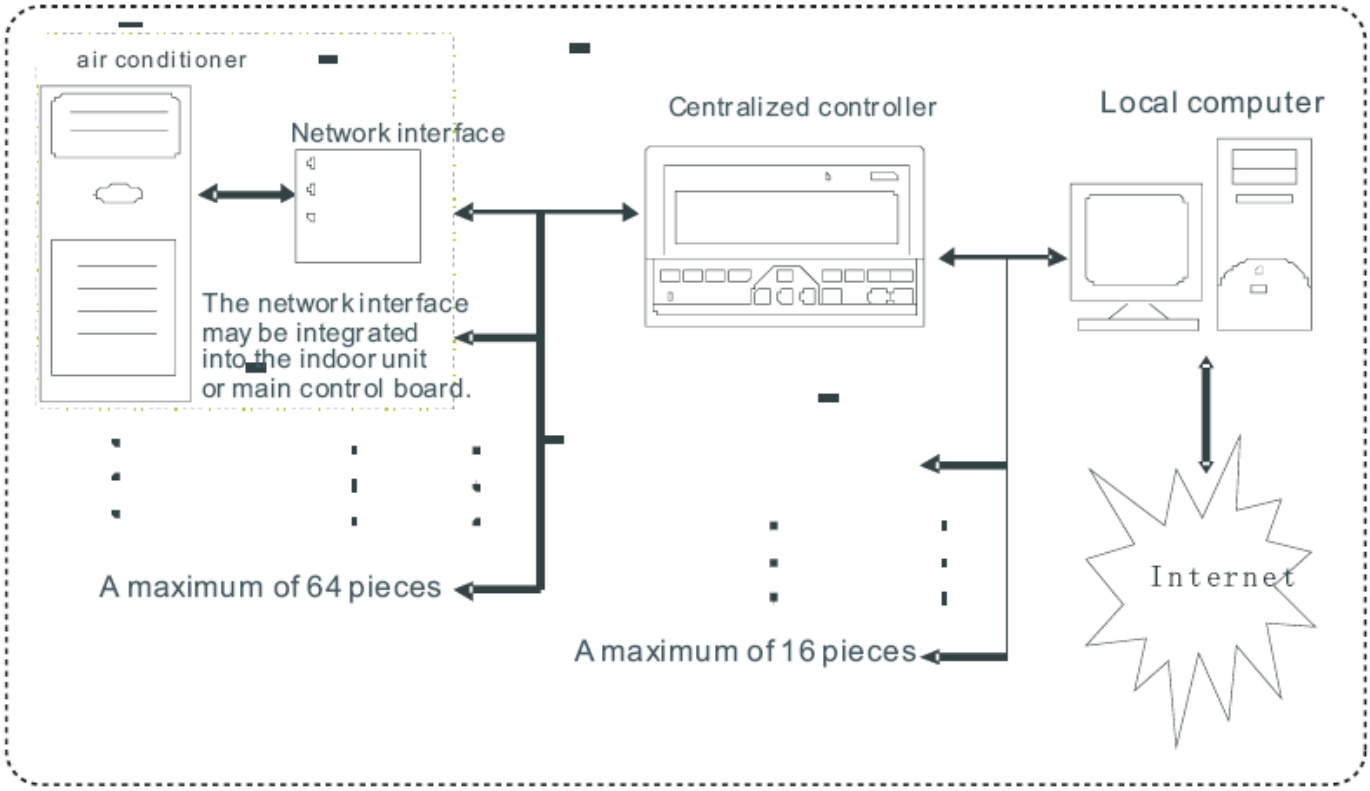
3. Wiring Method of CCM and NIM

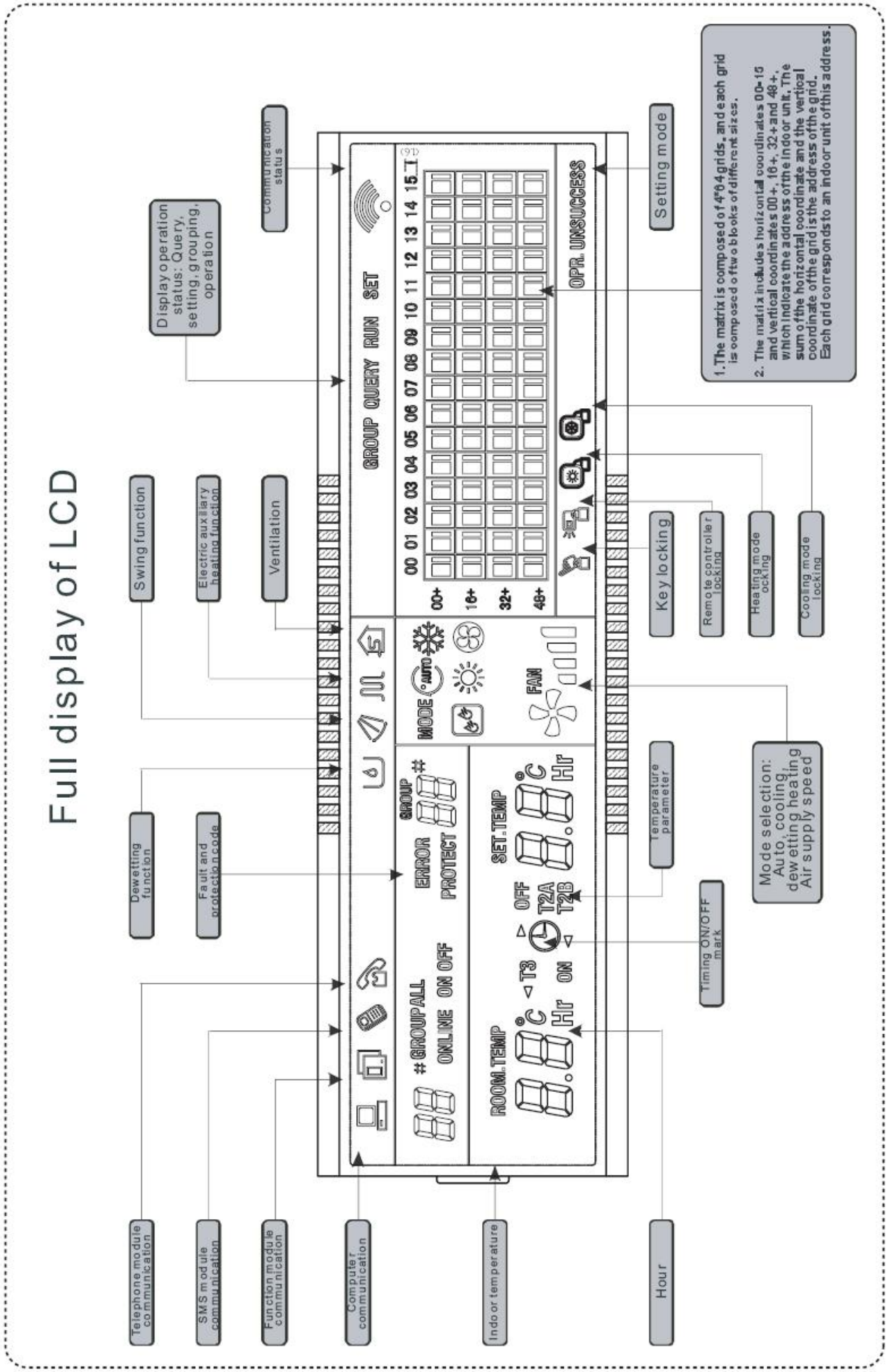
The communication port between CCM and NIM has polarity, and terminal X, Y, E must connect to the responding

X, Y, E.It is the same for the port between CCM and module of Rs485 to Rs232.



2.5The below is MD-CCM03 indoor CCM

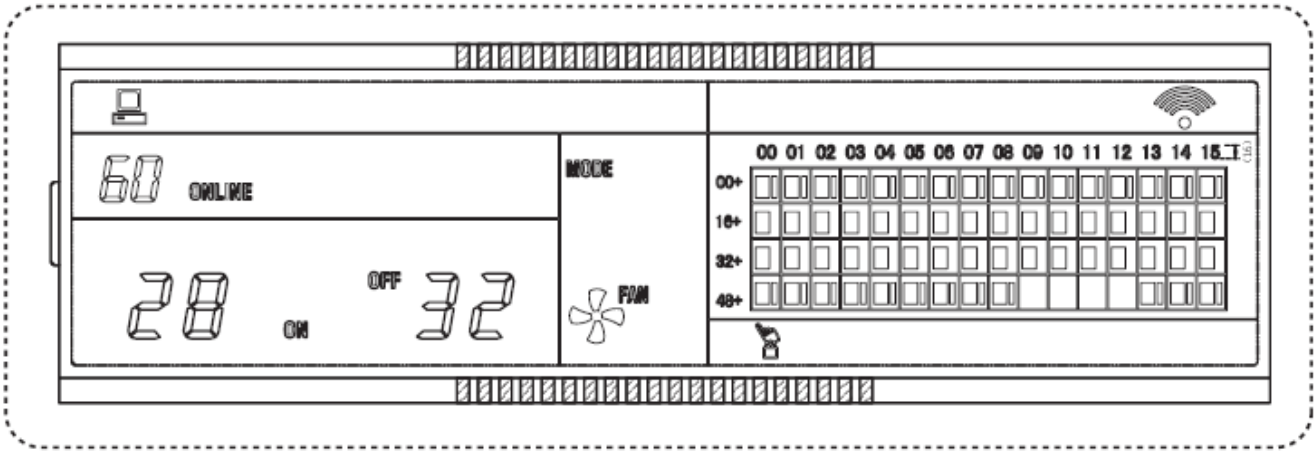

air conditioner
Network interface
The network interface may be integrated into the indoor unit or main control board.
Centralized controller
Local computer
Internet
A maximum of 64 pieces
A maximum of 16 pieces


Full display of LCD
Communication status
Display operation status: Query, setting, grouping, operation
Setting mode
1.The matrix is composed of 4*64 grids, and each grid is composed of two blocks of different sizes.
2. The matrix includes horizontal coordinates 00-15 and vertical coordinates 00+, 16+, 32+and 48+, which indicate the address of the indoor unit. The sum of the horizontal coordinate and the vertical coordinate of the grid is the address of the grid. Each grid corresponds to an indoor unit of this address.
GROUP QUERY RUN SET
OPR. UNSUCCESS
00 01 02 03 04 05 06 07 08 09 10 11 12 13 14 15
00+
16+
32+
48+
Swing function
Electric auxiliary heating function
Ventilation
Key locking
Remote controller locking
Heating mode locking
Cooling mode locking
Dewetting function
Fault and protection code
Temperature parameter
Timing ON/OFF mark
Mode selection: Auto, cooling, dewetting heating, Air supply speed
GROUP ALL
ONLINE ON OFF
GROUP
ERROR
PROTECT
MODE
AUTO
FAN
SET.TEMP
ROOM.TEMP
T3
OFF
T2A
T2B
ON
Telephone module communication
SMS module communication
Function module communication
Computer communication
Indoor temperature
Hour

Liquid crystal matrix display description:

1. The liquid crystal matrix is composed of 4*64 grids, and each grid is composed of two blocks of different sizes (as shown in the above figure).
2. The matrix includes horizontal coordinates 00-15 on the upper side and vertical coordinates 00+, 16+, 32+ and 48+ on the left
   Side, which indicate the address of the indoor unit. The sum of the horizontal coordinate and the vertical coordinate of the grid is the address of the grid. Each grid corresponds to an indoor unit of this address.
3. One grid is composed of two blocks of different sizes. The status
   Indication table is as follows:

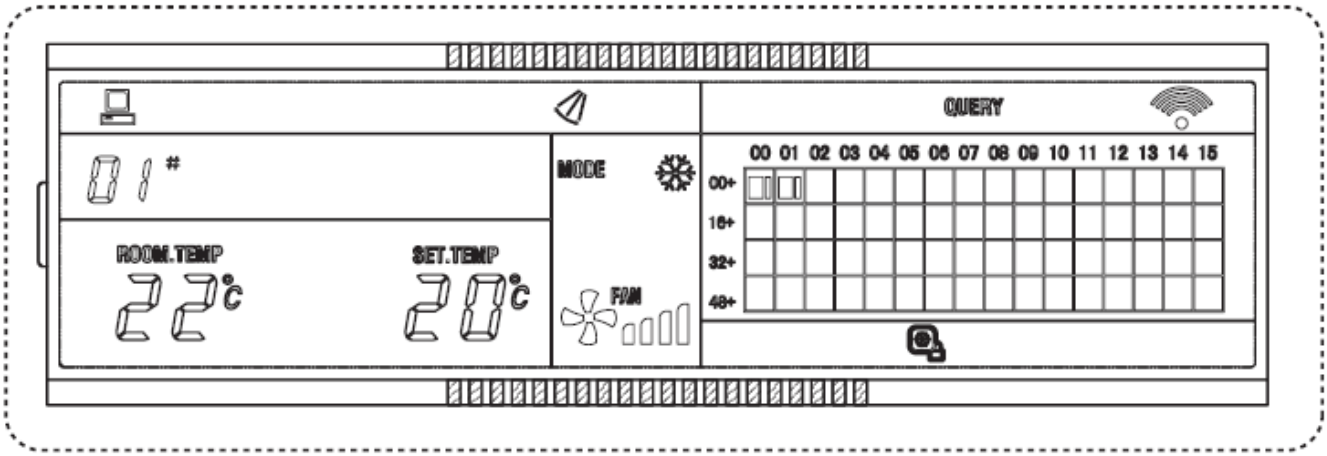
Status / Object	Constantly on	Slow blink		Fast blink
Big black block	In-service	Selected		Out of service
Small black block	Power on		Fault of indoor unit	Power off



LCD display description

1. Description of the standby page

1) The LCD displays the standby page, 60 air conditioners are in service, of which 28 are powered on and 32 off.
2) In the matrix, the big dots of (00, 16+) and (15,32+) are luminous, and the small dots are not luminous. It indicates the 32 air conditioners with the addresses from 16 to 47 are powered off.
3) In the matrix, the big and small dots of (09, 48+) and (12, 48+) are not luminous. It indicates the four air conditioners with the addresses from 57 to 60 are outside the network.
4) All other big and small dots in the matrix are luminous. It indicates all other air conditioners are in the network and powered on.
5) The address of the air conditioner is sum of the coordinates. For example, the address of (09, 48+) is 09+48=57.
6) The centralized controller keypad is locked, and the centralized controller communicates with the computer normally.

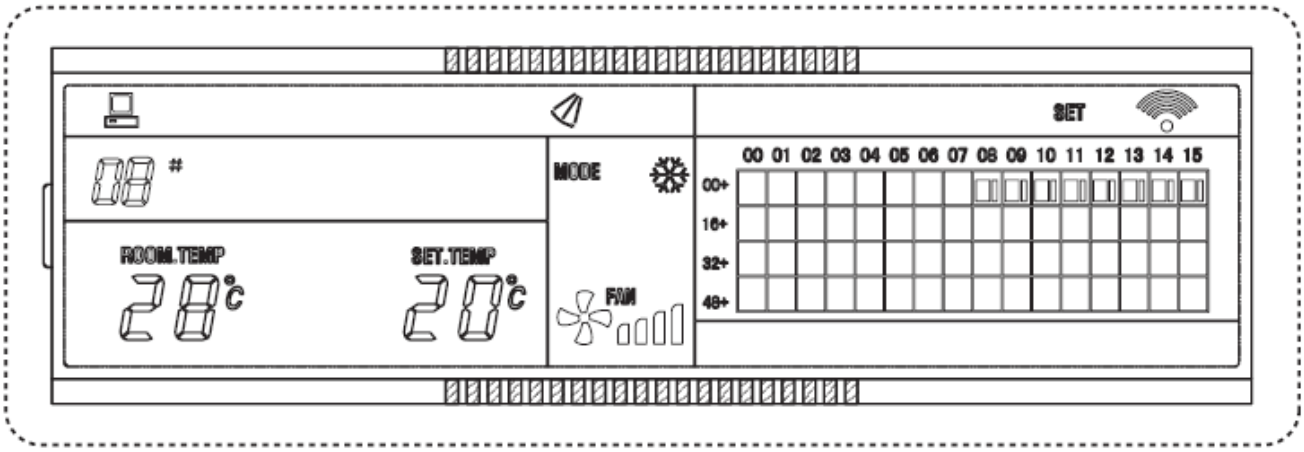


2. Description of the query page

1) The LCD displays the query page, and the air conditioner with the address of 08 is being queried. Mode of the air conditioner with the address 01 is: Cooling, strong air, swing on, indoor temperature 22°C, set temperature 20°C, cooling mode “lock”.

2) In the matrix, only the big and small black dots at (00, 00+) and (01, 00+) are luminous. It indicates the in-service and power-on status of the air conditioners with the addresses of 00 and 01.

3) The centralized controller communicates with the computer normally.

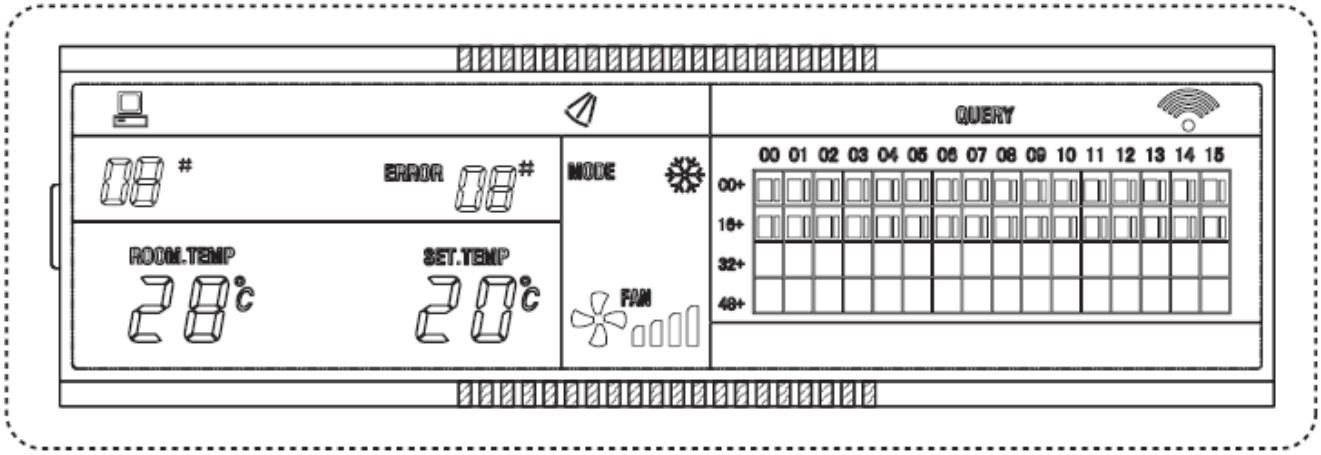


Description of the setting page

1) The LCD displays the setting page, and queries the air conditioner with the address of 08. The mode of the air conditioner with the address 08 is: Cooling, strong air, swing on, indoor temperature 28°C, set temperature 22°C, cooling.

2) In the matrix, only the big black dots from (08, 00+) to (16, 00+) are luminous. It indicates the air conditioners with the addresses from 08 to 16 are in service.

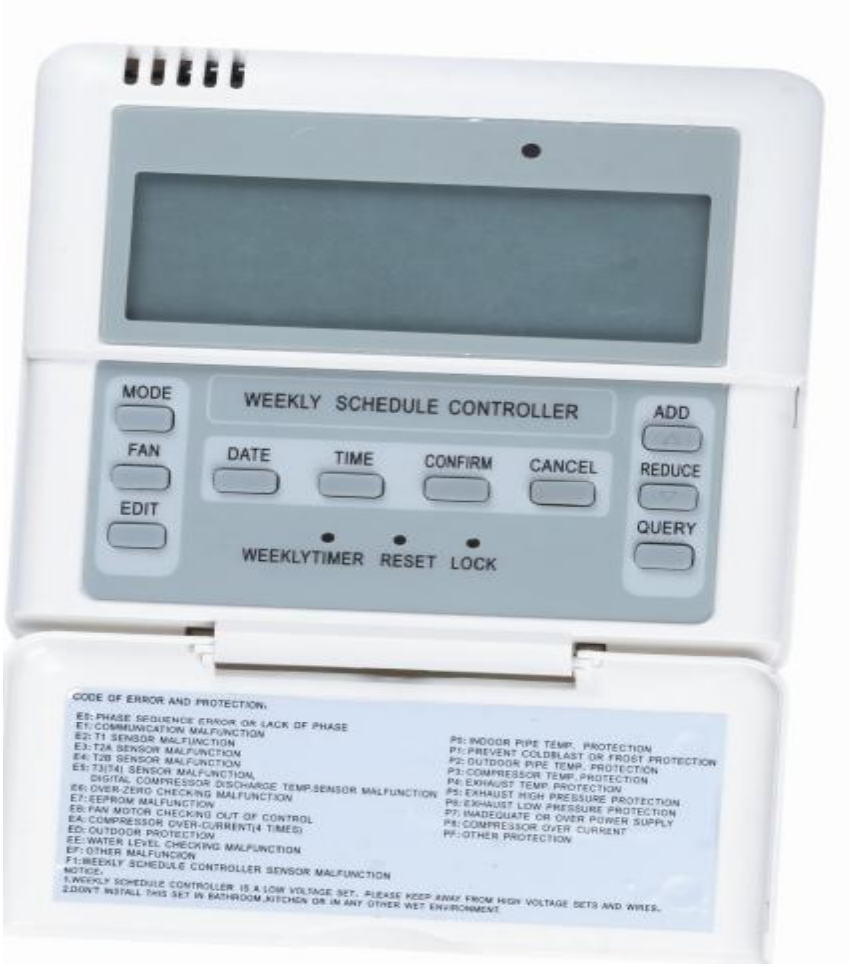
3) The centralized controller communicates with the computer normally.



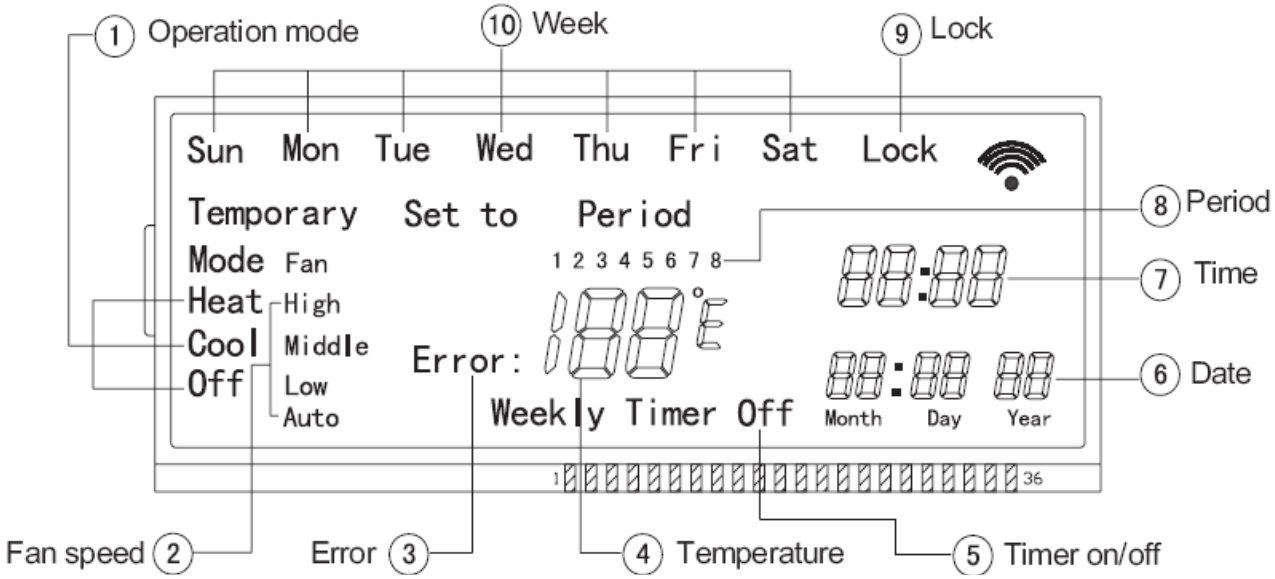
Fault page display description

1) Query the air conditioner with the address of 08 in the query page. The air conditioner with the address of 08 is faulty, and the fault code is 08. The big black dot below (08, 0+) blinks.
2) In the matrix, only the big and small black dots from (00, 00+) to (16, 15+) illuminate. It indicates the in-service status of the air conditioners with the addresses of 00 and 01.
3) The centralized controller communicates with the computer normally.

2.6The below is MD-CCM04 weekly schedule timer

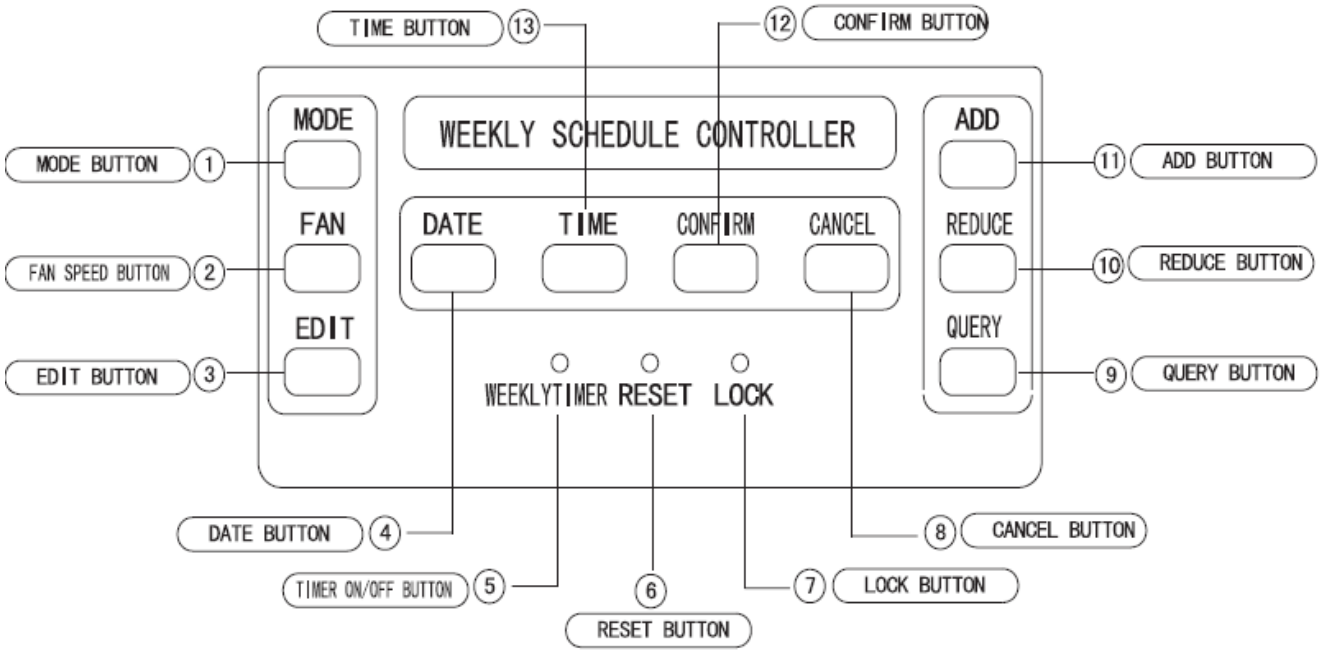


Name and Function of Indicators on the controller



1. Operation mode indication: When press "MODE" and "ADD" or "REDUCE" button, the following mode can be selected
   in circle: Cool→ Heat→ Off.
   For cooling only model, heat mode should be skipped.
2. Fan speed indication: There are four fan modes: low, middle, high, auto. For some models, no middle fan then the middle fan is seen as high speed.
3. Fault indication.
4. Temperature indication.
5. Weekly Schedule Controller switch indication.
6. Date indication.
7. Time indication.
8. Period indication.
9. Lock indication.
10. Week indication.

NAME AND OPERATION OF THE BUTTON ON THE WIRE CONTROLLER

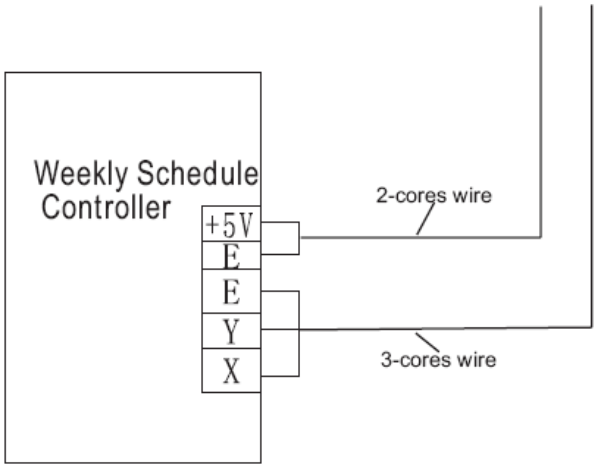


1. Mode button: When press this button and
   ADD or REDUCE button to select Heat or Cool or off, press Confirm to save and back.
   Remark: For the cooling only model, the heating mode should be skipped.
2. Fan speed button: press this button and ADD or REDUCE Button to select of High or Middle or Low or Auto, press
   Confirm to save and back.

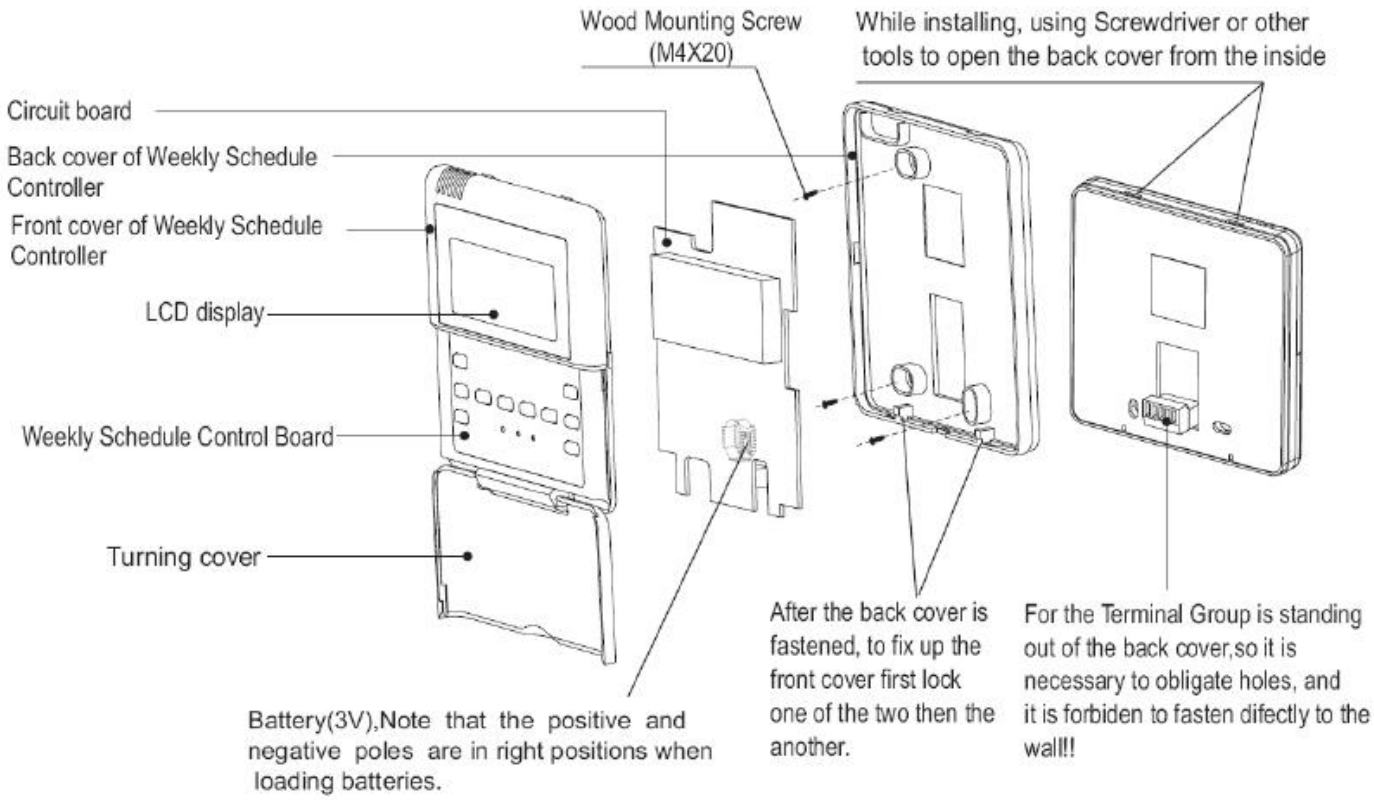
3. Edit button: When press this button, can setup Week and Date and Period.
4. Day button: press this button and ADD or REDUCE button to select of High or Middle or Low or Auto, press Confirm to save and back.
5. Timer on/off button: Press this button, can turn off the weekly timer function.
6. Reset button: When press this button, all of the display part of LCD will be light last 2 second when weekly timer has been electrified or reset. Following the lamp will be closed and last 1 second. So the system will come into normal display state and need to carry out initial setting.
7. Lock button: press this button, weekly timer come into lock mode, Press LOCK again, lock mode is unchained at once. Weekly timer lock mode state can not be canceled when weekly timer has come back to supply power after interruption of power supply.
8. Cancel button: It is for not saving and retreating, or to cancel the lock.
9. Query button: Press “Query” “Select” “query ”“present” temperature value press “Cancel ”to back, press “Confirm” time section parameters' setting :press “Add” or “reduce” to select several days from “Sun” to “Sat” 7 days, press” Confirm “”1 “~”8 “time section selection beginning from No.1 time section , setting mode、fan's velocity、starting time and end time, till 8 time sections are finished press “Confirm” to save press “Cancel” to retreat.
10. Reduce button: It is for reducing to numbers and moving left or up to the other.
11. Add button: It is for adding to numbers, and moving right or down to the other.
12. Confirm button: It is for confirm selection.
13. Time button: When press button, and press “Add” or “Reduce” to adjust the hours value , press “Confirm” adjust minutes: press “Add “or “Reduce” to adjust the minutes value, press “Confirm” to save and back.

Installation

Wiring technique and principle：



Instruction for installing:
When a weekly schedule controller is needed, a small 2-cores wire and 3-cores wire should be added. Connect with the same colour.


Wood Mounting Screw
(M4X20)
While installing, using Screwdriver or other tools to open the back cover from the inside
Circuit board
Back cover of Weekly Schedule Controller
Front cover of Weekly Schedule Controller
LCD display
Weekly Schedule Control Board
Turning cover
Battery(3V),Note that the positive and negative poles are in right positions when loading batteries.
After the back cover is fastened, to fix up the front cover first lock one of the two then the another.
For the Terminal Group is standing out of the back cover,so it is necessary to obligate holes, and it is forbiden to fasten difectly to the wall!!

Note

- The connecting wire should be a little longer as to take away the switch board easily for maintenance.
- The connecting wire should be a little longer as to take away the controller easily for maintenance.